MANAGING THE QUALITY OF EMPLOYABILITY DEVELOPMENT IN HIGHER EDUCATION THROUGH BLENDED LEARNING: A COMPARATIVE STUDY

by

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Submitted in accordance with the requirements for the degree of

DOCTOR OF EDUCATION

in the subject

EDUCATION MANAGEMENT

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROF. G.M. STEYN

NOVEMBER 2018

DECLARATION

I, Silna Van Tonder, declare that **Managing the quality of employability development in higher education through blended learning: A comparative study**, is my own work and that all the sources I used or quoted are indicated and acknowledged by means of complete references.

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NOVEMBER 2018

ACKNOWLEDGEMENTS

Honour and glory to God for his favour, mercy and grace, not only in this study but throughout my life. Thank you Lord for never failing me, regardless.

Without my super Professor, Trudie Steyn, this study would not have been possible. I could not have asked for better guidance, constructive input, motivation and most of all, for believing in me and the value of my study. I can see further, standing on the shoulders of a giant (Isaac Newton, 1676). Thank you Prof. for your invaluable contribution to my life, both as my mentor and a human being.

I would like to thank all the participants for their time and rich contributions. I would in particular like to mention Anel and Amanda, who were the most professional and supportive gatekeepers.

Thank you to the University of South Africa (UNISA) for the bursary awarded towards my study. I hope to make you proud. To the heroes at the UNISA library in Parow, thank you for your expert assistance and support.

I want to thank my language team at Cum Laude Language Practitioners, for going beyond the call of duty to assist.

No words can describe the gratitude I feel towards my family and friends for their support. Thank you Teresa, Dirk, my auntie Marie, Hazel and Sue for always checking in on me. You are the best. Without your prayers, support, inspiration and interest in my progress, I doubt if my study would have materialised.

To my dear mom and dad who never had this opportunity, I would like to say: I am because of you. Thank you both for investing, trusting, supporting and loving me throughout my life.

Last, but not least, I want to thank my lifeline, my friend, my partner, my soulmate for unreserved love, inspiration and trust. We were in this together, right from the start. Counsellor, thank you for your guidance and critical review, you allowed me to become so much more. You are the wind beneath my wings (Bette Midler, 1988).

I dedicate this study to the younger generation of students in my family. You have all the opportunities. Use it wisely.

SUMMARY

The fourth industrial revolution and twenty-first century employability development has emerged on education and political agendas as a priority all over the world. Researchers have suggested and investigated more innovative learning experiences using technology as part of a blended learning approach. Restructuring current programmes to include skills development has the potential to equip students with the skills needed for employment. The development of blended learning approaches is an expanding field in both developing and developed countries. Yet, the skills graduates display and employers' dissatisfaction is a concern.

Limited research has been conducted on the use of blended learning to enhance employability development in formal learning environments. Most of the available research relies on employer perceptions, with little data available on the knowledge, skills and values graduates actually possess or on the impact this has on employability outcomes. This study aims to address this gap by focussing on managing the quality of employability development in higher education using blended learning.

The study was aimed at gaining insight into the perceptions, understanding, concerns and experiences of institutional managers, tutors, graduates and students in their real world when using blended learning to enhance graduateness. This aim made the qualitative research method a suitable match. This thesis reports on the resulting comparative study between a South African and an American institution using different blended learning approaches to compare different cases for similarities and variations.

The South African higher education sector's fitness for purpose and pursuit of benchmarking against international standards of academic quality, knowledge and expertise calls for redress and reform of teaching-learning. In the fourth industrial revolution with a 21st century knowledge economy, driven from a macro- meso- and microlevel perspective, higher education in South Africa has the potential to provide a workforce that is socially and economically viable and more inclusive. The thesis concludes with a model to support employability development in blended learning environments.

UKULAWULA UMGANGATHO WOPHUHLISO LOKUQESHEKA KWIMFUNDO EPHAKAMILEYO NGOKUFUNDA NGOKUDIBENEYO: UPHONONONGO LOTHELEKISO

Uphuhliso lwezakhono nokuqesheka ngenkulungwane yamashumi amabini nanye,zivele kwii-ajenda yezemfundo kunye nezopolitiko njengeziqaqambileyo kwihlabathi jikelele. Abaphengululi bacebisile kwaye baphanda ngamanye amava amaninzi amatsha okufunda besebenzisa itheknoloji njengenxalenye yokuvelela ukufunda ngokuhlanganisiweyo/ngokudibeneyo.

Ukulungiswa kwakhona iinkqubo ezikhoyo kubandakanywa uphuhliso lwezakhono kunako ukubaxhobisa abafundi ngezakhono ezifunekayo kwingqesho. Uphuhliso lokuvelela ukufunda okudibeneyo/okuhlangeneyo ngummandla owandayo kumazwe asakhulayo naselekhulile. Kunjalo, izakhono eziboniswa ngabafundi abanemfundo ephakamileyo,zibanga inkxalabo kubaqeshi.

Uphando oluncinane luqhutyiwe ekusetyenzisweni kokufunda okuhlanganisiweyo ukuphucula uphuhliso lokuqeshwa kwiindawo zokufunda ezisemthethweni. Uninzi lophando olukhoyo luxhomekeka kwiimbono zomqeshi, onolwazi oluncinane kulwazi, izakhono kunye neenqobo ezisemgangathweni abafundi abanemfundo ephakamileyo ngokwenene abanazo okanye kwifuthe le nto enalo kwiziphumo zokuqesheka. Esi sifundo(Olu phononongo) sijolise ekuxazululeni/ ekudibeni lo msantsa ngokugxila ekulawuleni umgangatho wophuhliso lokuqesheka kwimfundo ephakamileyo kusetyenziswa ukufunda okuhlangeneyo.

Uhlolisiso lwalujoliswe ekufumaneni ingqiqo kwiimbono, ekuqondeni, iinkxalabo kunye namava abalawuli beziko, abafundisi, abafundi kwizifundo zemfundo ephakamileyo abaphumeleleyo nabafundi kwilizwe labo lokwenene xa befunda ngendlela yokudibanisa ukufunda ukuphucula impumelelo yabo yokuba beneziqu. Le njongo yenza indlela yophando olusemgangathweni lufaneleke. Le ngxelo yeengcingane ezibhaliweyo engqinelwe zizixhobo ekukhutshweni kwengxelo kwizifundo zothelekiso phakathi kweziko loMzantsi Afrika neziko laseMerika kusetyenziswa uvelelo lwezifundo zokufunda ngokudibeneyo ezahlukileyo ukuthelekisa imiba eyahlukileyo kwefanayo kunye neyeleleneyo.

Ukufanelekeka kwecandelo lemfundo ephakamileyo eMzantsi Afrika ngenjongo kunye nokulangazelela (nokusukela) imilinganiselo esemgangathweni yemilinganiselo yemfundo yamazwe ngamazwe, ulwazi kunye nobuchule bokulungisa nokutshintshwa kokufundisa

nokufunda. Ngolwazi lwezoqoqosho lwenkulungwane yamashumi amabini nanye, oluqhutywa ngokwembono yenqanaba elikhuluu, eliphakathi nelincinane, imfundo ephakamileyo eMzantsi Afrika inokukwazi ukubonelela ngabasebenzi abafanelekileyo ngokwentlalo nangokwezoqoqosho kwaye ibandakanye okuninzi. Le thisisi iphetha okanye iphela ngemodeli/ ngomzekelo ukuxhasa uphuhliso lokuqesheka kwiindawo zokufunda ngokudibeneyo.

UKUPHATHA NOKULAWULA IKHWALITHI YOKUTHUTHUKISWA KOKUQASHEKA KWABAFUNDI ABAPHUMA EZIKHUNGWENI ZEMFUNDO EPHAKEME NGOKUSEBENZISA UKUFUNDA OKUXUBILE: UCWANINGO LOKUQHATHANISA

Ukuthuthukiswa kwamakhono kanye nokuqasheka kwabafundi abaphuma ezikhungweni zemfundo ephakeme kuleli khulu-nyaka lama-21 sekubonakala njengento eseqhulwini ezinhlelweni zezemfundo kanye nezepolitiki emhlabeni wonke jikelele. Abacwaningi sebephakamise futhi bacubungula izindlela nezinqubo zokufunda ezintsha kusetshenziswa ubuchwepheshe njengengxenye yokufunda okuxubile. Ukuhlelwa kabusha kwezinhlelo ezikhona njengamanje ngenhloso yokubandakanya ukuthuthukiswa kwamakhono kungabahlinzeka abafundi ngamakhono adingekayo ukuze baqashwe. Ukuthuthukiswa kwezindlela zokufunda okuxubile kungumkhakha okhulayo emazweni asathuthuka ngokunjalo nasemazweni asethuthukile. Kodwa-ke nakuba kunjalo, amakhono aboniswa ngabafundi abaphuma ezikhungweni zemfundo ephakeme, kanye nokungagculiseki kwabaqashi, kuseyinto edala ukukhathazeka impela.

Lukhona ucwaningo oluncane oselwenziwe mayelana nokusetshenziswa kwezindlela zokufunda okuxubile ngenhloso yokuphucula ukuthuthukiswa kokuqasheka kwabafundi abaphuma ezikhungweni zemfundo ephakeme ngaphansi kwezimo zokufunda ezihlelekile. Ucwaningo oluningi olukhona njengamanje luthembele emibonweni yabaqashi, futhi kunedatha encane kakhulu ekhona mayelana nolwazi, amakhono kanye nezimompilo abanazo abafundi asebephothule iziqu zabo noma idatha ephathelene nomthelela walokhu emiphumeleni yokuqasheka kwabo. Lolu cwaningo luhlose ukuvala leli gebe ngokuthi lugxile ekuphatheni nokulawula ikhwalithi yokuthuthukiswa kokuqasheka kwabafundi asebephothule iziqu zabo ezikhungweni zemfundo ephakeme ngokusebenzisa ukufunda okuxubile.

Ngalolu cwaningo kwabe kuhloswe ukuthola ulwazi olunzulu mayelana nemibono, ukuqonda, ukukhathazeka kanye nezimo abadlule kuzona abaphathi bezikhungo, abafundisi, abafundi asebephothule iziqu zabo kanye nezitshudeni esimweni soqobo abaphila ngaphansi kwaso lapho kusetshenziswa ukufunda okuxubile ukuze kwenziwe ngcono amathuba abo okuthi babe sebezuze ulwazi namakhono anohlonze ngenkathi bephothula iziqu zabo. Le nhloso yenza ukuthi indlela yocwaningo olukhwalithethivu kube ngefanelekile kulolu cwaningo. Le thisisi ihlinzeka umbiko mayelana nocwaningo lokuqhathanisa oluwumphumela walokhu olwenziwe phakathi kwesikhungo saseNingizimu Afrika kanye nesikhungo saseMelika kusetshenziswa

izindlela ezihlukahlukene zokufunda okuxubile ngenhloso yokuqhathanisa izimo ezihlukahlukene ukuze kubhekwe izinto ezifanayo kanye nalezo ezihlukile kulezo zimo.

Ukufaneleka komkhakha wezemfundo ephakeme waseNingizimu Afrika ukuqhathaniseka namazinga amazwe ngamazwe ekhwalithi yezemfundo, ulwazi kanye nobungoti kudinga ukuthi kulungiswe konke lokho okungahanjiswanga ngendlela efanele esikhathini esedlule futhi kulethwe izinguquko emkhakheni wezokufunda nokufundisa. Emnothweni wolwazi wekhulu-nyaka lama-21, oqhutshwa ngokwezinga elibanzi, elimaphakathi kanye nelincane, umkhakha wemfundo ephakeme unawo amandla okuhlinzeka ngabasebenzi abangaletha impumelelo nokusimama kwezenhlalo nakwezomnotho, futhi okungabasebenzi ababandakanya izinhlobo zabantu abavela emikhakheni yempilo ehlukahlukene kanye nasezigabeni zomphakathi ezihlukahlukene. Le thisisi iphothula ngokuhlinzeka ngemodeli ezosekela ukuthuthukiswa kokuqasheka kwabafundi ngaphansi kwezimo zokufunda okuxubile.

KEY TERMS

Twenty-first century skills; The Fourth Industrial Revolution; Adult learning; Blended learning; Education management; Employability development; Graduateness; Higher education; New learning; Quality learning; Technology learning; Skills development.

LIST OF ABBREVIATIONS

ATC21S	The assessment and teaching of 21st century skills
CBI	Confederation of British Industry
CHET	Centre for Higher Education Transformation
CoI	Community of Inquiry
FET	Further Education and Training
GATS	General Agreement on Trade in Services
HEQC	Higher Education Quality Committee
HERANA	Higher Education Research and Advocacy Network in Africa
IAU	The International Association of Universities
ICEF	InCharge Education Foundation
ICT	Information communication technology
NCAT	The National Centre for Academic Transformation
NQF	National Qualifications Framework
OECD	Organization for Economic Cooperation and Development
SADC	South African Development Community
SAQA	South African Qualifications Authority
SAUS	South African Union of Students
SETA	Sector Education and Training Authority
UK	United Kingdom
UNESCO	United Nations Educational, Scientific, and Cultural Organization

UNISA	University of South Africa
US	United States
VARK style	Visual aural read/write kinesthetics learning styles
WTO	World Trade Organization
WUN	Worldwide Universities Network

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'Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand'. (Confucius, 450 BC).

1.1 INTRODUCTION

Enhancing 21st century skills and employability in the fourth industrial age, and the steps taken in higher education to improve the employability of graduates, has become a challenge not only in South Africa but in the world. Developing employable graduates has emerged as an increasingly urgent priority on both educational and political agendas (Graham & De Lannoy, 2017:1; Peyper, 2017:1; CBI, 2015:6; Makoni, 2014:1; Asonitou, 2014:283). Fuelled by the lack of growth-enabling policies in higher education, the impact of expected increased student fees, limited public funding, students' expectations of programme quality and content, and the economic climate at large, as witnessed in recent student protests at different South African higher education institutions call for urgent attention. Innovative, flexible and creative opportunities to address employability development and 21st century skills in the fourth industrial revolution in the South African higher education and labour market are needed (Menon & Castrillon, 2019:1; Chetty & Knaus, 2016:1; Hall, 2016:1; Habib, 2016:1; Freerks, 2016:1; Somo, 2016:1; SAUS, 2015:4; Maimane, 2015:1). A call to reform the inconsistency between the number of graduates and the increased unemployment rate should be explored (Latchem, 2014:314; Moleke, 2010:87). Before the inclusion of employability development in the higher education curriculum can be justified, blaming a 'skills gap' or 'mismatch' between graduate skills and employer demands cannot be correctly understood without recognising the disposition of higher education institutions and the extent of professional and social inclusivity in the labour market (Walker as cited by the British Council, 2015:1).

In the 30th edition of the World Economics Forum's Global Competitiveness Index 2013-2014, Schwab (2013:346) highlighted the single most problematic factor for doing business in South Africa as the unsatisfactory level of the educated workforce. Of the 148 economies listed in

this global competitive index of 2013-2014, the quality of the South African educational system ranked 146th (very poor), the labour market efficiency 116th, hiring and firing practices extremely inflexible in 147th place, and notable tensions in labour-employer relations landed us in 148th place. Lifting educational standards and ensuring a more effective labour market would however be critical in view of the country's high unemployment rate (Schwab, 2013:43). In the World Economic Forum's Global Competitive Index for 2017-2018, South Africa dropped 14 positions in the overall ranking (Schwab, 2017:34). The rapid increase in enrolments, growing numbers of poorly equipped graduates in an already congested job market, the quality of teaching and learning, poor learning environments, and the high student-tutor ratios contribute to inadequate graduate employability in South Africa, and indicate that higher education in South Africa is in crisis. According to the British Council's (2015:1-2) in-depth university research done in Ghana, Kenya, Nigeria and South Africa, key areas were revealed as graduates indicated that:

- Entrepreneurship and social enterprises with combined careers in different sectors were key.
- The development of their societies and support of their communities were an important objective.
- That institutions' skills development programmes were underrated and undercapitalised.
- That there were inadequate opportunities for students in less fortunate social circumstances to develop skills, do volunteer work, or do internships.
- Graduates lacked knowledge transferable to real-life situations.

In view of South Africa's high unemployment rate of 39,3% with youth between the ages of 15 and 34 years either still in education and training or unemployed (Statistics South Africa, 2018:1), it is crucial that higher education standards undergo significant review and the labour market be made more efficient. Graduates who do find employment are widely criticized by employers for their poor quality of education. However, according to the British Council (2015:2), access *to* quality education guarantees access into the workplace *with* quality education. The challenge in this study was to research if managing the quality of employability development in higher education through blended learning would equip students with appropriate skills needed to be employed across the country in careers for which they are qualified.

The development of blended learning programmes has become a growing trend not only in developed countries, as is evident from research done at the Cork Institute of Technology in Ireland, the Cambridge University in the United Kingdom, Kozminski University in Poland, and Indiana, Stanford, and Clarkston Universities in the United States of America – all fostering a blended university culture - to improve, support and extend teaching and learning into employability options (Johnson, Adams Becker, Cummins, Estrada, Freeman & Hall, 2016:1). In developing countries a variety of South African Development Communities (SADC) participated in the 11th International e-Learning Africa Conference on Information Communication Technology (ICT) for Development, Education and Training in Cairo, Egypt (*eLearning Africa News Portal,* 2016), and in 2016 signifies that higher education globally is undergoing long-term transformation to develop 21st century skills and employability in their graduates.

The level of skills displayed by graduates and the dissatisfaction of employers remain matters for concern, particularly in the areas of technology skills, personal qualities, transferable skills, decision-making, and critical thinking skills. A study done by the United Kingdom Commission for Employment and Skills asked the question of how students develop employability skills through formal learning environments. The conclusion was that initiatives such as reflective, integrative, experiential, and action learning and work experience were the primary methodologies to be used (Lane, 2016:50; Wilson, 2012,32). It is, however, evident that most research relies on employer perceptions and little is known about the knowledge, skills and values graduates actually possess and the impact these have on employability outcomes (British Council, 2015:2; McCowan, 2014:6). Besides existing research done by the Centre for Higher Education Transformation (CHET) in South Africa and the Higher Education Research and Advocacy Network in Africa (HERANA), there is a significant lack of research on the necessity of graduate perspectives to enhance the vision of relevant stakeholders in higher education. Solving graduate unemployment is not something higher education institutions can manage alone, but coordinated efforts to improve the quality of programmes, broader learning experiences, and innovative employability enhancement programmes play vital roles (Johnson *et al.,* 2016:6).

Institutions of higher learning face quite the challenge in attempting to meet the expectations of the millennial employee who has grown up with technology, has had lifelong access to the internet, and demands fast-paced development and driving their own progress. "For

millennials, employability is the new catchword" (Stanger, 2014:1) and a key driver for change. The role of social media, globalisation, cross-country learning experiences and continuous technological development that enables students to access information from anywhere ensures that knowledge workers soon become the dominant group, as it is evident that the pace of technology and workplace expansion is not aligned with the pace of professional skills development (Foundation for Blended and Online Learning, 2017:12; Asonitou, 2014:283). Employability development in higher education can better prepare institutions for supporting student employability through blended learning, resources, infrastructure and a student-centred learning approach (Ferrell & Gray, 2014:1). However, Gray (2014:1) reveals that only a few higher education institutions effectively use and integrate technology effectively to encourage student employability, although some institutions are exploring technology for enhancing employability skills development by:

- Establishing opportunities and support throughout the curriculum for students to design, express, display and reflect on their acquired knowledge and skills in an integrated way.
- Embedding and empowering institutional staff members and students with digital literacy skills across the institution and within different disciplines and curricula.
- Ensuring that assessments and learning are reliable and trustworthy, thus more closely linked to real-world and workplace circumstances.
- Ensuring assessments are *for* learning not *of* learning by creating opportunities for self, peer and tutor review.
- Establishing the importance and development of self-directed students in control of their own learning.
- Empowering students as agents of change to benefit all stakeholders, including the development of comprehensive employability skills in students.

Gray (2014:1) is supported by Adams, Becker, Cummins, Davis, Freeman, Hall, Giesinger and Ananthanarayanan (2017:18-19) in further maintaining that the use of technology can support all of the aims listed above. However, additional research and exploration is necessary to ensure institutional staff are supported and good practices are shared, and to take full advantage of the benefits offered by technology, indicating how existing employability opportunities can mobilize technology to the best effect. The quality of teaching and teaching methods has a notable influence on how adult students acquire, retain and make sense of information. This, in turn, has a meaningful influence on students' cognitive and personal development and the

establishment and implementation of critical knowledge and skills for working in a diverse society (Walker, as cited in British Council, 2015:1). This is reiterated by Wilson (2012:10), who maintains that higher education institutions

> *should reflect on the opportunities that are provided for students to develop employability skills through the formal learning methodologies used within the university and ensure that students are able to articulate the skills that they have developed through their learning experiences. It is for universities to ensure that their staff have the appropriate skills to support students in this process.*

Where teaching methods correspond with students' preferred learning styles, students tend to apply their learning more effectively, retain information for longer, and have a positive learning experience (The Economist, 2017:1; Beetham & Sharpe, 2013:38; Moallem as cited in Clayburn, 2011:13). Different learning styles are applicable to different students. Fleming and Mills (1992) distinguished between four learning styles in their model of VARK learning style preferences. Visual students prefer graphs, flowcharts and hierarchy models. Auditory students perform best with lectures, reading, e-mail, and group discussions. Students that prefer reading/writing, favour media like books, PowerPoint presentations and lists, and kinaesthetic students prefer to experience and practice, using videos, case studies and simulations. In order to accommodate students' different learning styles, a VARK educator profile questionnaire was established in June 2016 for tutors to help them understand their own teaching styles, and enable them to differentiate between students' learning styles (Fleming & Mills, 2016:1). All these styles are included in a blended learning approach.

It is evident that many higher education institutions the world over address student employability in a number of ways. Universities in countries such as Australia and the United States of America include student career services, work placement and experiences, mentorship programmes, employability and professional skills, volunteer work, and employability awards in their formal curricula in specific disciplines such as medicine, education and social work (Lane, 2016:52; Gray, 2014:1). According to an education and skills survey done in the United Kingdom, nearly four out of five businesses (77%) across the country reported that the quality of career advice students receive in higher education is insufficient to assist them in making informed decisions about their options (CBI, 2015:51). In South Africa, the inconsistencies between theoretical knowledge and practical application or work experience is evident in most

higher education programmes (Walker, as cited in British Council, 2015:1). The kind of skills necessary for employability is further complicated as there is no agreement on a specific set of skills or indication of which skills are more important and how they should be acquired and accommodated in higher education curricula (Taylor, 2016:1). According to students' views, the skills necessary for employment include real-life work experience, practical application of their knowledge, and a range of baseline skills beyond academic and technical skills (British Council, 2015:8). The possession of baseline skills is strongly associated with life and employment success, and acknowledgement for the importance of baseline skills has grown (Sigelman, 2016:1; Nguyen, 2016:1; Gibb, 2014:455). Entrepreneurial skills, communication skills, interpersonal skills, teamwork and problem-solving skills were found to be major problems in Africa (British Council, 2015:8).

In comparison to universities in Ghana, Nigeria and Kenya, South African universities do not place enough emphasis on self-employment and entrepreneurship as viable employment possibilities. A survey of 6 000 final-year students of universities in the abovementioned four countries showed that only 4,1% of students in South Africa consider self-employment; the Ghanaian figure was 9,4%, Nigeria 23,4%, and Kenya 64,4% (British Council, 2015:5). This could be because the education system teaches young people to be job seekers and employees rather than job creators; and many do not have sufficient skills to actively participate in the economy. Entrepreneurial knowledge should be gained through higher education, where students should be taught to create instead of merely seeking jobs (Botes, 2015:1). Curtin University in Australia offers an undergraduate degree in entrepreneurship where students are placed in working teams to replicate the realities of the workplace environment. Each team is assigned to a mentor from industry to assist students in business development activities carried out towards the goal of establishing their own businesses (Johnson *et al.,* 2016:7). Many graduate entrepreneurs of Stanford University in the USA became successful through hands-on curriculum training, and are collectively responsible for a global revenue of $2,7 trillion annually. Alumni from Cambridge University in the UK helped generate companies with around £100 million of investment over a fifteen-year period. The career paths of graduates often reflect the value of the institutions they attended, which is essential when institutions want to substantiate the principles they claim to instil in their students (Johnson *et al.,* 2016:8).

The pervasive spread of technology and the consequent pace at which adult students communicate and exchange information, the particular competencies and skills required for

this new knowledge economy known as the fourth industrial revolution needs investigation. The World Economic Forum (2018:ix) suggests changing skillsets in most industries and the fourth industrial age will transform how and where employees work. A new knowledge economy should be supported by a new approach and vision for South African higher education to develop a more socially and economically inclusive society where citizens are 'active champions of their own development' (National Youth Policy 2020, 2015:2). This, in turn, should be supported by an effective government as discussed in the National Youth Policy for 2015 - 2020, which also refers to the prevalence of technology in higher education. If higher education institutions, students, and industry all believe in an improved skills solution, cooperation in terms of employability should be productive. Otherwise, the unfortunate reality is that higher education institutions are limited in what they can contribute to making a material difference (Menon & Castrillon, 2019:1; Van Tonder, 2015:5). Learning and blended education – where learning incorporates a blend of technological interaction with face-to-face learning - is discussed in the next section.

1.2 LEARNING AND BLENDED EDUCATION

Blended learning – also referred to as hybrid learning – can be seen as a multiplicity of online learning options on a technological platform, combined with face-to-face learning (online + classroom = blended learning). It implies that between 30% - 70% of an academic programme is delivered online through presentations, videos, self-test exercises, quizzes, interactive discussion forums, library access, lecture notes, and more. Blended learning follows a student-centred learning approach and promotes collaborative learning strategies; it is one of the fastest growing trends in higher education globally and the proposed mode of delivery in the fourth industrial age (Xing & Marwala, 2017:13; Lane, 2016:47; Van Tonder, 2015:6; Morrison, 2013:1). Lane (2016:47) suggests that technological interaction with a strong tutor presence, and constructive feedback and participation combined with face-to-face facilitation, demonstrates positive skills development experiences that would not have taken place either in purely online or face-to-face presentation. The suggestion is that higher education institutions combine the best of both worlds and enhance employability skills development by employing blended learning practices. The success of blended learning is not about technology *per se* and does not insinuate taking a course and putting it on a computer; it entails the remodelling of learning materials, teaching strategies, accessibility, flexibility, interactivity, learning support and well-constructed learning activities for deeper and meaningful learning (Van Tonder, 2015:27; Noroozi & Haghi, 2013:1; Schwartz & Schmid, 2012:228).

For students, deep and meaningful learning experiences are hugely influenced by the world they live in at a particular time, and a lot of human learning occurs naturally during informal social interactions with others (Johnson *et al.,* 2016:22; Van Tonder, 2015:73; National Research Council, 2012:1; Rotter, as cited in Merriam, Caffarella & Baumgartner, 2007:289). Informal learning and the availability of social media have changed formal learning possibilities and the acquisition of new skills (Johnson *et al.,* 2016:22). However, Johnson *et al.* (2016:22) also states that higher education institutions have not incorporated informal social learning experiences into students' formal programmes, while experts believe that blending formal and informal methods of learning can foster deeper and meaningful learning. Vygotsky's work (as cited in Merriam *et al*., 2007:292) suggests that social constructivist learning is constructed when individuals engage socially in dialogue and events; and that they learn better when their current views of knowledge is stimulated, tested, transformed and elaborated during interactions with others. Blended learning can be understood as an active rather than passive process that places greater emphasis on the student as a self-starter, and in control of his/her own self-directed and self-paced learning (Johnson *et al.,* 2016:12; Van Tonder, 2015:40; Clayburn, 2011:13).

Blended learning not only makes provision for social collaboration, but provides for individual, personalised learning strategies that are aligned with individual students' goals and empower students to take control of their own learning. The notion of freedom and independence in blended learning strategies has potential to increase motivation and improve engagement with learning matter (Johnson *et al*., 2016:28); it draws on Piaget's theory, stating that learning is an "individual or personal activity" (Driver, Asoko, Leach, Mortimer and Scott as cited in Merriam *et al*., 2007:291). Regardless the perspective of social or individual learning, constructivist theory understands learning as an active attempt that occurs through authentic and real-life "dialogue, collaborative learning, and cooperative learning" (Merriam *et al*., 2007:292).

A supportive institutional policy that provides for professional academic staff development and learning opportunities, curriculum design support, and evaluation via technology is essential for successful blended learning (Johnson *et al.,* 2016:18) in the fourth industrial age. Some universities have created problem-based workshops to train academic staff by putting them in the role of students to mirror the process their students will undergo; others expanded interdisciplinary offerings and redesigned academic learning spaces to encourage more active,

collaborative communication and learning that resembles the world of work, social environments (Johnson *et al.*, 2016:12) and the development of 21st century skills and employability.

1.3 21ST CENTURY SKILLS AND EMPLOYABILITY

Deeper learning approaches, often defined alongside "21st century skills", "the fourth industrial age", "next generation learning", "student-centred learning", "new basic skills", and "higher order thinking" (Menon & Castrillon, 2019:1; Xing & Marwala, 2017:10; Lucas & Hanson, 2016:10; National Research Council, 2012:1) are naturally used to include both cognitive and non-cognitive skills, critical thinking skills, problem-solving skills, communication, collaboration, motivation and persistence that can be established within the academic learning environment. These skills are important for career success, life and other areas of adult responsibility. Other skills such as resourcefulness, ethical thinking, innovation and advancement can be developed for students' future achievement through formal or informal learning (World Economic Forum, 2018:29-30; National Research Council, 2012:1). In describing 21st century skills, the National Research Council (2012:2) identified three areas of development in students which include cognitive, interpersonal and intrapersonal competencies. These build on Bloom's (1956) taxonomy of learning, which includes cognitive, affective and psychomotor objectives. Based on the various 21st century skills researched from eight reports by die National Research Council (2012:2-11) and the World Economic Forum report (2018:29-30), a 21st century employability skills list outlining different clusters was combined and compiled as specified in Table 1.1 and discussed below:

Table 1-1: Clusters of 21st century competencies (National Research Council, 2012:2-12; World Economic Forum, 2018:29-30)

AREAS OF DEVELOPMENT	CLUSTERS	21ST CENTURY SKILLS
1. Cognitive competencies	Cognitive competencies and approaches	Critical thinking, problem solving,, interpretation and debate, decision making, cooperative learning, flexibility
	Knowledge	Information literacy, research ability, technology communication, oral and written communication, active listening ability
	Creativity	Creativity and innovation
2. Intrapersonal competencies	Intellectually receptive	Flexibility and adaptability, creativity, cultural regard and awareness, sense of personal and social responsibility, acknowledgement of diversity, lifelong learning, cognitive attentiveness and awareness
	Work ethics	Resourcefulness, self-direction, reflection and regulation, responsibility, time management, perseverance, constructive, planning, professionalism, ethical, integrity, citizenship, career orientation
	Positive central self-evaluation	Self-evaluation and regulation, independent, purposeful, physical and psychological health
3. Interpersonal competencies	Teamwork and collaboration	Communication, collaboration, teamwork, cooperation, coordination, interpersonal skills, empathy/perspective, trust, service delivery, conflict resolution, negotiation
	Leadership	Leadership, responsibility, assertive communication, self-presentation, social influence with others

Each of the three areas of development in Table 1.1 is aligned to specific clusters which correlate with the fourth industrial revolution skills identified as necessary to be employable, according to the World Economic Forum (2018:29-30) and 2012 report of the National Research Council. The first area of development refers to cognitive competencies and includes three clusters, namely *i) Cognitive competencies and approaches* that include critical thinking skills, problem-solving skills, interpretation and discussion capabilities, decision-making skills, cooperative learning abilities and flexibility; *ii) Knowledge* refers to information literacy skills, the ability to do research, technological communication skills, oral and written communication abilities, and active listening skills; *iii) Creativity* refers to innovation and advancement/development. The second area of development mentions intrapersonal competencies, which are clustered under *i) Intellectual receptiveness*, which refers to flexibility and adaptability, creativity, cultural regard and recognition, awareness of personal and social responsibility, acknowledgement of diversity, lifelong learning, and cognitive attentiveness and awareness; *ii) Work ethics* are resourcefulness, self-direction, reflection and regulation, responsibility, time management, perseverance, constructive and productive skills, planning abilities, professionalism, ethics, integrity, citizenship and career orientation; *iii) Positive core self-evaluation* relates to self-regulation and evaluation skills, independent learning skills, purposeful behaviour, and conduct that is indicative of physical and psychological health. The third area of development entails interpersonal competencies that are clustered under *i) Teamwork and collaboration* and include communication skills, collaboration, teamwork, cooperation, coordination, interpersonal skills, empathy, trust, service delivery, conflict resolution and negotiation; *ii) Leadership* includes leadership skills, responsibility, assertive communication, self-presentation, and social encouragement.

Developing employability skills in face-to-face learning, Cranmer's research findings (as cited in Lane, 2016:48) and supported by Lane (2016:48), posed questions and scepticism whether employability skills could be developed in exclusive face-to-face teaching-learning. Students reported that verbal communication skills, teamwork, and problem-solving skills were invaluable in groupwork activities, and were positive contributors to the development of employability. In a student evaluation questionnaire given to students of Birkbeck College, University of London (Lane, 2016:48) in March 2014, respondents were in favour of face-to-face delivery in the form of group discussions in small groups and reported improved understanding when learning from other students 'to see and learn things more clearly'. Van

Tonder (2015:118) validated this evidence with students in her study reporting that social engagement with other students furthered their own learning and understanding. It is evident that students do not only acquire academic knowledge, but improve their social, interpersonal, leadership, and communication skills through collaboration with others (Lane, 2016:48; Van Tonder, 2015:29). Due to time constraints in the traditional classroom, these skills cannot be fully developed on this platform only (Lane, 2016:48; Van Tonder, 2015:29). Blended learning with the use of technology means that teaching-learning takes place mainly through online discussion forums. This corresponds with Vygotsky's learning theory (as cited in Merriam *et al*., 2007:292), which suggests that learning is constructed through active participation when individuals engage in dialogue and events through interaction with others (Van Tonder, 2015:18). The development of written communication skills is much more effective with technology as students do weekly assignments, written assessments, participate in discussions and follow-up responses, and submit research papers over the course of their studies. Students acquire time management skills and learn to work under pressure and cope with volumes of recommended reading material, demanding assessment loads, research with and critical review of relevant journal articles, posting discussions, and receiving feedback from peers and tutors (Lane, 2016:48; Van Tonder, 2015:43;45-50).

The development of critical analysis is advanced through, and based on reflection and research not always possible in face-to-face delivery, as thoughts and opinions are captured for future reference and evaluation. This, in turn, stimulates more thoughtful discussions than those in physical classrooms when one has to remember what was said, or be able to verbalise and verify thoughts directly, or lose the opportunity to contribute (Lane, 2016:48). Equal learning and contribution opportunities are accommodated in the technology classroom, which means that students have the opportunity to contribute to discussions and develop their written communication skills with critical reasoning as opposed to face-to-face learning where students often feel isolated and detached when they are not engaged (Ernst, 2008:40).

Kalantzis and Cope (2012:68) maintain that collaborative skills can also be developed in the technology classroom where students work in groups where they learn from one another and think and act as part of a team. Sharing with others and responding to others in producing knowledge that is jointly owned, fosters a deeper level of thinking (Johnson *et al.*, 2016:6) that can be transferred and applied in other situations. Online students worked more efficiently in a

collaborative task assignment with four out of five online groups completing their collaborative assignments before the face-to-face groups. In asynchronous online learning, participants engage in group projects in their own time within deadlines set by tutors: in traditional face-to-face learning, pre-arranged meetings have to be set at a time convenient to all students in the group – which may not be easy when students are full-time employees with families and other responsibilities (Lane, 2016:49).

Bridgstock, as cited in Kinash, Crane, Judd, Mitchell, McLean, Knight, Dowling and Schultz (2015:6), emphasises the many demands on adult students' time and how career planning and management of own individual growth is an important aspect of employability for building a sustainable work profile while students are still at university. The availability of career advice centres should contribute to students' development of employability strategies and innovative ways of incorporating employment-related approaches in the curriculum should be investigated. Kuijpers and Scheerens (as cited in Kinash *et al.*, 2015:6) and the British Council (2015:10) agree that the provision of services that teach interview skills, the composition of curriculum vitae and résumé, and work etiquette, and facilitate networking opportunities are essential for the integration of employment-related strategies in the curriculum for a positive employability outcome.

The World Economic Forum (2018:23) suggests better tutor preparation and training for the age of the fourth industrial revolution that is aligned to 21st century skills and incorporates new teaching methods to train higher order skills. This should be investigated according to different countries' educational challenges. It is suggested that tutor productivity be increased by freeing up valuable time spent on grading and testing activities, which could be computerised. This would leave more time for digital professional development and focusing on the knowledge and skills students require in order to develop. Without an effective quality management approach when using technology for education, it is challenging for institutions and tutors to deliver and incorporate high quality content in teaching and learning strategies.

1.4 MANAGING QUALITY

Managing quality, a predominant theme in higher education, entails a broad range of elements that impact directly on how the institutional environment addresses issues of quality. Such elements include the vision and goals of the institution, governance and leadership, institutional

arrangements for quality assurance, student and academic support strategies, skills and expertise of academic staff, development and monitoring the provision of careers and employability modules embedded in curriculum design, and how to manage the design, delivery and assessment strategies (Swanger, 2016:3; South Africa. Council on Higher Education, 2014:80; Materu, 2007:3).

The success of blended learning approaches is not an institutional responsibility alone but includes both the cooperation of academic staff support and students' involvement to produce the kind of graduates the future workplace needs (Johnson *et al.*, 2016:18). New approaches to teaching and learning require new and/or upgraded tutor skills to transition from traditional subject-specific expertise to facilitators of learning processes in skills development (Axmann, Rhoades, Nordstrum, La Rue & Byusa, 2015:49). With constant technological changes and market demands, innovative tutor training practices in both programme content and delivery should extend into new types of tutor training curricula where teaching skills are not seen as rigid and irreversible, but flexible, mobile and transferable (Axmann *et al.*,2015:16) to ensure quality in blended learning. Axmann *et al.* (2015:18) identified key elements that focus on fundamental skills to be included in tutor training programmes:

- Skills sets that include experiential, scientific, educational and theoretical training that directly relate to their subject field.
- Skills that are relevant across subject matter and contexts, and
- Continuous assessment and redesigning of skills requirements for tutors and facilitators in the transformation of higher education globally.

The quality of learning in blended programmes have been found to be much higher than purely face-to-face or purely online learning (Van Tonder, 2015:138). Yousef, Chatti, Schroeder and Wosnitza (2015:84) agree that one of the most important factors to empower and engage students who learn via technology is the quality of programme content. Shee and Wang (as cited in Yousef *et al.*, 2015:84) point out that students place great value on technology learning when the content is well-organised, interactive, and the subject is clearly presented and of optimal length. Yousef *et al.* (2015:87) also found that blended learning improves employability skills and supports lifelong learning activities to link formal and informal learning.

1.5 PROBLEM STATEMENT

Should the South African higher education vision for 2030 as outlined in the National Youth Policy 2020 (2015:21) be to meet the current and future needs of the country through innovation and competitiveness, the urgency for high quality employability learning cannot be ignored. Change is needed for South Africans to have access to the highest possible quality education and training, producing meaningful improved learning outcomes, be comparable to countries of similar development levels and have highly skilled individuals with highly skilled graduates. Technology is seen as a driver for change in Africa, however, "sometimes gradual change just isn't enough" (Elletson & Burgess, 2015:3).

If students meet the formal minimum exit requirements set by a national government and higher education institutions, it is presumed that they are workplace ready for the careers in which they are qualified, and failure employers' expectations cannot be blamed on the graduate. It is evident that the lack of growth-enabling policies, poor quality content of programmes, inadequate government funding for public higher education, a high unemployment rate, and the economic climate in South Africa do not foster innovative opportunities for employability development in the higher education sector (Chetty & Knuas, 2016:1; Hall, 2016:1; Maimane, 2015:1; British Council, 2015:2). Employers in various studies have mentioned the skills they require of employees (Lane, 2016:50; McCowan, 2014:6; National Research Council, 2012:2-12; Wilson, 2012:32) and expressed concerns over higher education institutions "confined by long-standing structures and systems" and "not keeping up with the times" (Kinash *et al.*, 2015:163), resulting in inadequate employability development. Until higher education institutions acknowledge that employment, employers, graduates and 21st century skills in the fourth industrial revolution have changed and address what students lack and need, graduate employability will not improve (Kinash *et al.*, 2015:162-163; British Council, 2015:15; McCowan, 2014:6).

Four case studies done at the University of the Witwatersrand, University of the Free State, University of Venda, and Nelson Mandela Metropolitan University where 147 interviews were conducted with institutional management, tutors, and students (British Council, 2015:3) revealed the lack of theory-practical abilities, particularly in students with no prior work exposure (British Council, 2015:9). Others were concerned that students only had knowledge of 'what was in a book' (British Council, 2015:10), while employers expected graduates to at

least have some knowledge of the working environment after three years at university (British Council, 2015:10). Many students reported valuing collaborative teaching-learning, where students work together in group discussions. In general, evidence of the development of employability in student support services was paltry (British Council, 2015:10).

In a blended learning approach, credit-bearing employability skills are embedded in the curriculum to enhance cognitive, intrapersonal, and interpersonal competencies, which has the potential to develop 21st century skills in a formal learning environment. Emanating from the core problem statement, namely that technology integration with a change in pedagogical approach in higher education is inevitable, the main research question that emerged was: How can the quality of employability development in higher education be managed through blended learning?

The following sub-questions emerged from the main research question:

- What were the experiences and expectations of students, graduates, tutors and institutional management using technology in blended learning?
- What were the views of students, graduates, tutors and institutional management on the skills required for employment?
- How did students, graduates, tutors and institutional management experience institutional assistance towards employability development?

1.6 THEORETICAL FRAMEWORK

Blended learning is discussed in section 2.7 and described as merging face-to-face instruction with online asynchronous learning; it is a collaborative and social constructivist learning technique that draws on the theories of Jean Piaget (1896-1980), John Dewey (1938) and Lev Vygotsky (1896-1934) (Merriam & Bierema, 2014:36; Harasim, 2012:12; Schunk, 2012:229) discussed in section 2.3.1.4. It emphasises adult students' need for active involvement, reflective thought, and an understanding of connecting previous experience with new information relevant to 21st century expectations. A shift from an industrial age of routine skills to a knowledge age of information and communication acknowledges information building and technology as a process for rethinking and reforming adult teaching and learning for the 21st century to enable more advanced learning options towards 21st century employability skills

(Faulkner & Latham, 2016:138; Harasim, 2012:81). Educators, society, and employers have emphasised the development of skills necessary for a rapidly changing and highly technical society to produce informed and employable workforces regardless the slow response from educational systems to transform teaching and learning through technology (Merriam *et al.*, as cited in Van Tonder, 2015:65). Blended learning is not about technology *per se*, but incorporates the management, transformation, flexibility and interactivity of learning materials, teaching strategies, learning support, and well-constructed learning activities for deeper and meaningful learning (discussed in section 2.5 and 3.3), (Van Tonder, 2015:27; Noroozi & Haghi, 2013:1; Schwartz & Schmid, 2012:228) that leads to sustainable employment. The global rise in unemployment, technological advancement, and the knowledge economy has influenced what adults learn, how they learn, and how they should be taught (Merriam & Bierema, 2014:205).

There is "no single theory of adult learning" (Merriam *et al.*, 2007:83), as discussed in section 2.3, and according to Jarvis (as cited in Merriam & Bierema, 2014:1-2), learning rarely occurs "in splendid isolation from the world in which the learner lives; …it is intimately related to that world and affected by it". For educational managers and tutors to understand adult learning, they must reflect, improve, reshape and refine their own management and teaching practices related to 21st century approaches. Learning that equals a change in behaviour (section 2.3.1.1 and 2.4), as postulated by Ivan Pavlov, John B. Watson, Edward Thorndike and B.F. Skinner (Knowles, Holton & Swanson, 2015:14; Van Tonder, 2015:52; Harasim, 2012:11), implies that, after learning, the student acts differently than before learning took place, which might not always happen immediately but is possible until a later stage (Olson & Hergenhahn, 2013:2). Behavioural learning approaches still form part of adult learning when students are encouraged to remember, memorise and reproduce information. According to Boyd (1966) and Tough (1971), as cited in Anderson (2013:87) and supported by Jerome Bruner's interest in intellectual growth (as cited in Knowles *et al.*, 2015:109-110), more modern learning approaches with more appropriate learning results where adult students recognise, understand and control their own cognitive processes to predict, identify and rectify needs as they emerge are influenced by prior knowledge and experience (West, Hannafin, Hill & Song, 2013:133), and are referred to as metacognitive or higher order skills (Mayes & De Freitas, 2013:20) which becomes particularly relevant when learning with technology. The cognitive learning theory (section 2.3.1.2), which is regarded as tutor led and focusses on individualised learning, still

remains prominent in adult higher education (Harasim, 2012:58). From a humanist point of view (section 2.3.1.3) (Abraham Maslow, 1970; Carl Rogers, 1983, as cited in Merriam and Bierema, 2014:29), learning equals the development of an individual student towards self-actualisation and controlling their own destiny. Knowles' writings on andragogy is still seen as the cornerstone of adult learning, and suggests that adult students become more independent and self-directed, are internally motivated (section 2.3.2.3; 2.6; Figure 2.1), and can refer to experience to support their learning and make their own decisions in terms of their own growth and development (Knowles *et al.*, 2015:43-47; Merriam & Bierema, 2014:31). Knowles' model of adult learning is largely echoed by David Kolb's (1984) experiential learning model (section 2.3.2.1) and Dewey's (1938) theories of learning (as cited in Knowles *et al.*, 2015:131; Merriam & Bierema, 2014:104; Zijdemans-Boudreau, Moss & Lee, 2013:115), and highlights learning as a lifelong process (section 2.3.2.5), emphasises the role of reflection, self-examination, engagement with others, and the ability to apply knowledge to real-life situations (Mezirow, as cited in Merriam and Bierema, 2014:82). Higher education institutions are perceived as natural settings for transformative learning (section 2.3.2.2) where students are provided with opportunities "to think, to be, and to act in new enhanced ways" (Kasworm & Bowles, as cited in Merriam & Bierema, 2014:91).

Online collaborative learning (section 2.3.1.5) builds on previous learning approaches and is proposed as a new theory of learning (Faulkner & Latham, 2016:138; Harasim, 2012:81). It focuses on collaboration and knowledge building by using technology to solve problems through communication and discussion of information that is ubiquitous and accessible to all (section 2.3.2.4). Vygotsky (1962), as cited in Schunk (2012:243), postulates that all higher order skills originate in the social environment and suggests that social interaction transforms learning experiences. For Merriam and Bierema (2014:16) all learning happens in social settings, which can be formal, non-formal, informal and online. Students who excel at collaborative learning start to individualise learning in new ways, and soon individualised activities become collaborative (Kalantzis & Cope, 2012:69). It is further evident that students in online collaborative learning environments have more control over their own learning and perform better than in face-to-face learning environments (Van Tonder, 2015:117; U.S. Department of Education, 2010: xiv). Therefore, tutors as facilitators play an important role in validating the reliability of information, highlighting relationships, and in leading and linking

the student to construct knowledge through active participation and discourse (Evans, Kurantowicz & Lucio-Villegas, 2016:2; Harasim, 2012:90; Starkey, 2012:11).

Various teaching and learning approaches provide students and tutors with opportunities to prepare, equip, and empower a fourth industrial revolution workforce. In both developed and developing economies, education is placed as a driver for economic recovery and the enhancement of employability, particularly with the advancement of technology where learning is more flexible (Beetham, 2013:269). In South Africa, the Council on Higher Education (2014:1) acknowledges the need to expand the current position of higher education by introducing more flexible learning approaches through the integration of technology. The "central process of adult development" (Mezirow, as cited in Merriam & Bierema, 2014:31) is how students make sense of information offered to them. Not all students learn in the same way, as discussed in section 2.3.2, and the act of learning is largely influenced by the student's current knowledge base, his/her own personal involvement, reasoning, thinking, reflection, questioning and evaluation of own assumptions (Merriam & Bierema, 2014:86), together with a preferred learning style. Learning styles and their interrelationship with teaching styles (section 2.8 and 2.8.1) are beneficial to both student and tutor; and learning styles have informed effective teaching strategies in many ways (Beetham & Sharpe, 2013:38). Although one learning style does not take precedence over another, individuals might vary in their approaches, strategies and preferences, depending on specific learning activities (Knowles e*t al.,* 2015:199; Van Tonder, 2015:113; Killen, 2013:96). The benefit for tutors of using technology in learning is the assessment values available from students' online platforms, which are often used to monitor student behaviour, learning style preferences and cognitive abilities, which are not always immediately available in the traditional classroom (section 2.8.2).

Effective management of quality, innovation and change (sections 3.2, 3.2.1 and 3.2.2) is pivotal to the performance of higher education institutions when assessing new approaches to teaching and learning, as it forces educational management to address the processes of setting and solving problems that may lead to new management practices (Bell, Warwick & Galbraith, 2012:5). In light of the poor quality of academic outcomes, employers' concern over graduates' lack of employability skills, and high levels of unemployment due to inadequate skills training (Swanger, 2016:46), national departments of higher education and institutional management

must be open to better, more flexible options and possibilities to solve the challenges in higher education. Quality, according to Clare (2012:37), is defined as fitness for purpose and conformance to specifications. Globally, being fit for purpose refers to a workforce that needs to continuously update its skills, envisage more flexible management practices, be innovative, and explore new perspectives; this is usually determined during the design phase of pursuing new developments and innovative approaches. Conformance to specification guides the appropriateness of a design, its user requirements, and its relevancy. Globally, much focus has been placed on educational management practices and the measurement of institutional quality (Bell e*t al.*, 2012:4); however, institutional quality in Sub-Saharan Africa is under threat and faces "severe quality challenges" (British Council, 2014:3).

The digital age requires companies, government, and educational institutions to lead in new ways and in multiple areas to keep up with the rapidly changing demands of society in order to remain competitive and meet the changing needs of stakeholders operating in an ever-expanding digital economy (discussed in sections 3.4 – 3.4.1, 3.4.2, 3.4.3, 3.4.4; Figure 3.1 and Figure 3.2). The fight for survival in a digital age requires that governing bodies and management need to relinquish control and surround themselves with a workforce that can execute a digital vision (Reschke, 2016:1). For educational institutions to respond to the changing demands, they are compelled to establish an effective management team and implement better performance indicator systems and assessment tools. Performance indicators in higher education institutions are contentious, as proposals do not always lead to adoption and implementation (3.5, 3.5.1, 3.5.2, 3.5.3, 3.5.4 and 3.5.5) (Clare, 2012:43; Bunting & Cloete, 2012:2). This is particularly true for South African institutions that often fail to produce data sets about the performance of their institutions (Bunting, Sheppard, Cloete & Belding, 2010:5). South African higher education institutions are not unfamiliar with the use of technology for learning, yet the impact of facilitation via technology is uncertain and little feedback and knowledge is available on how the quality of learning is managed when technology is incorporated into learning. This can mainly be ascribed to the lack of a framework and policy guidelines for technology facilitation (Council on Higher Education, 2016:16; Department of Higher Education and Training, 2015:16). The South African Council on Higher Education (2016:15-16) acknowledges that learning with technology, particularly in the form of blended learning, offers a notable advantage and could be financially effectual, but considers the effort insurmountable. This despite the results of the 2013 General Household Survey

(National Youth Policy 2020, 2015:7) which showed that only five percent of households in South Africa do not have access to a landline or mobile phone, indicating the barriers for technology use as fairly low.

Expanding traditional teaching and learning into quality blended learning environments with employability skills embedded in the formal curriculum has the potential to obtain relevant knowledge, skills and competencies for suitable work, life, economic growth and benefits to social and cultural development (discussed in section 3.6, 3.6.1, 3.6.2 and 3.6.3). Finding a solution to the requirements of having a variety of delivery modes and options relevant to the fourth industrial revolution teaching and learning, addressing skills shortages and employability development in the formal curricula cannot be ignored when observing the demands of a changing knowledge economy. It is the responsibility of higher education the world over to enable graduates' entry into the labour market with the skills required by the economy (discussed in section 3.7), (Hora, Benbow & Oleson, 2016:204; Gibbon, Muller & Nel, 2012:131). Higher education should also support, equip, provide leadership support and resources, and enable professional development to enable high quality tutors for 21st century teaching. Education for sustainability has a universal goal to empower students and graduates to assume responsibility for establishing a sustainable future for themselves, as discussed in section 3.8 and 3.9 (Greig, 2015:28).

1.7 AIMS OF THE STUDY

The aims of this study were to provide evidence-based research on how the quality of employability development in higher education, offered via blended learning, should be managed to prepare graduates for the diverse world of work, with specific objectives to determine:

- The experiences and expectations of students, graduates, tutors and institutional management of blended learning.
- The views of students, graduates, tutors and institutional management on the skills required for employment, and
- What aspects of blended learning influence the development of employability skills?

1.8 RESEARCH STRATEGY AND DESIGN

An exploratory study, supported by a strategy and conceptual framework to drive the research design (discussed in section 4.3), was proposed to gain insight and understanding into the way students, graduates, tutors and institutional management experienced blended learning to develop employability skills (Punch & Oancea, 2014:143). Interpreting the results of a literature review only may have validated the research problem, but it would not have sufficiently addressed the research problem at hand. Therefore, the researcher envisaged to learn from participants in their real-world settings through exploration and discovery of new thoughts about groups, processes, and activities in order to generate theories about its operation (Creswell, 2015:16; Creswell, 2015:546; Burke Johnson & Christensen, 2014:18). An exploratory study is conducted when there is very little research on a topic, when confusion and ignorance occur, the research problem is not well understood, and/or little information is available about the research problem (Burke Johnson & Christensen, 2017:18; Creswell, 2013:48).

In following a structured and logical approach that represented participants' real-life conditions, qualitative research appeared the appropriate design to answer the research questions (discussed in section 4.4). Qualitative research is used when a subject is relatively unknown and one wants to discover more about it in order to understand others' experiences and to richly describe their interpretations through direct personal and participatory contact, and to 'get close' and have an 'insider perspective' (Creswell, 2015:16; Burke Johnson & Christensen, 2014:36-37). The researcher acted as the instrument of data collection, asking 'how' and 'why' questions through social constructivism and interpretations made. Contrary to quantitative research, which depends on statistical reports using standardised measuring instruments, the findings in qualitative research are not predictable, generalisable or explainable in advance. In this study, results were produced according to the different realities and perspectives influenced by how students, graduates, tutors and institutional management experienced their own worlds (Burke Johnson & Christensen, 2014:35).

This risk of introducing a new, unconventional pedagogic approach steered the study into the proposal of guidelines for future research. The study was triangulated by using multiple validation sources to address the research problem, and an interpretive validation was suggested to accurately portray participants' "inner worlds" (Burke Johnson & Christensen,

2014:299-300). The research methodology was inductive, emerging and developing as the researcher made meaning from the personally collected and analysed data gathered from participants. The research methodology is discussed in the next section.

1.8.1 Research methodology

The research methodology is seen as "the toolkit of research methods brought together to crack the research problem" (Newby, 2014:53). Research methodology and research methods are often used interchangeably; however, this is not the case in educational research, where there are various contending methodologies with unique philosophies, measures and applications (section 4.4). A system of methods is intimately related with certain methodologies (Gerring & Christenson, 2017:5; Newby, 2014:53; Yin, 2014:8).

In this research, a case study method was used to explain, describe, illustrate, and enlighten participants' real-world experiences, which were too complex for experimental methods (Yin, 2014:19). For the researcher, the benefits of this case study was that the 'how' and 'why' questions could be answered in a situation where the researcher had limited control over behavioural events, little information was available, and the focus was on an existing occurrence in a bounded context (Yin, 2014:2; Punch & Oancea, 2014:148). The case study allowed the researcher to explore and describe a specific group of people holistically and to build in-depth understandings of important features, views and experiences participants had in their own worlds where their responses could not be manipulated (Yin, 2014:2; Punch & Oancea, 2014:153).

Multiple case studies were used to ensure comparative, in-depth and various analyses. The multiple case study was used to compare different cases for similarities and variations, effectively assess theories from the results of the cases, and to allow for the use of replication logic (section 4.4.1.3) (Burke Johnson & Christensen, 2017:435-436; Gale, 2015:87; Yin, 2014:18; Punch & Oancea, 2014:151; Creswell, 2013:99). In this multiple case study, the researcher was able to understand and analyse the differences and similarities within and across selected cases. Cases were selected for similar and contrasting results, so as to indicate a theoretical interest as opposed to mere reflection on differences and/or similarities found (Gustaffson, 2017:3; Yin, 2014:57).

1.8.2 Purposeful case and site selection

To best learn, explore and understand the central phenomenon, multiple cases and sites were selected (discussed in section 4.4.1 and 4.4.1.1). Individuals with experience in studying, tutoring or managing blended learning programmes provided information-rich data to answer the research questions (Creswell, 2015:205). Through a maximum variation sampling strategy (discussed in section 4.4.1.4), the researcher was able to seek as much variation as possible, and during the process of data analysis was able to search for a central theme that occurred across the cases (Burke Johnson & Christensen, 2017:273; Yin, 2016:94; Punch & Oancea, 2014:211; Creswell, 2013:157). The application of a "case study protocol' (Yin, 2014:84) allowed the researcher to increase the reliability of this study (discussed in section 4.4.1.5). In line with the rules of conduct, the multiple cases were defined and bounded in terms of research setting, sites, and the phenomenon studied (discussed in section 4.4.1.6). Four diverse cases were purposely selected with the assistance of gatekeepers (discussed in section 4.4.1.2), each holding different views and experiences. Participants consisted of five students, five graduates, five tutors and five institutional management members on a research site based in the Eastern Cape of South Africa, and four students, five graduates, eight tutors and six management members on a research site in the United States of America. Maximum variation transpired, as the institution in the Eastern Cape of South Africa followed a blended learning approach with no apparent employability skills, compared to the American institution where blended learning was formally incorporated for the development of employability skills using a technological platform. The study of two different sites using blended learning assisted in generating a theory of attitudes and experiences towards employability skills development when using blended learning (Creswell, 2015:207).

1.8.3 Instrumentation and data collection

The process of data collection and analysis (discussed in section 4.4.2) occurred simultaneously and did not happen in isolation. Document analysis, supported by multiple interactive data sources, was used to collect data, enlighten the study, and strengthen the quality of the research (Burke Johnson & Christensen, 2017;225; Yin, 2014:102). Individual virtual interviews, electronic qualitative questionnaires, a pilot test, and e-mail communications were used. For the purpose of triangulation and confirmation of the study, five data collection methods were applied (Burke Johnson & Christensen, 2017:298; Yin, 2016:87; Yin, 2014:121).

1.8.3.1 Document analysis

The use of document analysis (discussed in section 4.4.2.1) was valuable for verification and corroboration of information from other data sources, and for making interpretations (Yin, 2014:105-107). Media reports, government journals, newspapers, audio and visual evidence, and educational forums were studied together with online and digital information available on social media platforms and online blogs, where users are free to express their experiences and views.

1.8.3.2 Semi-structured individual interviews

In this qualitative study the researcher applied an interpretative and social constructivist philosophical position to determine the meaning participants ascribed to their experiences when they used blended learning in higher education to enhance graduate employability skills. Due to the flexibility of interviews as a data collection tool, semi-structured virtual interviews were conducted to "understand the language and culture" and "establish rapport" (Punch & Oancea, 2014:185) with participants (discussed in section 4.4.2.2). Nine interviews were conducted with students who were either working or studying part-time: five were on the South African research site and four on the American research site. Ten interviews were conducted with currently employed graduates – five per research site. Interview questions for graduates and students are attached as APPENDIX H and APPENDIX I.

1.8.3.3 Pilot test

The pilot test in this study was not used as a pre-test but to guide the researcher (discussed in section 4.4.2.3). A pilot test was conducted with five colleagues to determine operation failures, difficulties, understanding of questionnaire questions, time spent completing the questionnaire, and to determine whether the questions asked actually measured what they were intended to measure.

1.8.3.4 Electronic qualitative questionnaire

Using qualitative questionnaires as a "self-report data-collection" (Burke Johnson & Christensen, 2017:190) method allowed participants to express their experiences, beliefs and perceptions when they used blended learning in higher education to enhance employability skills (discussed in section 4.4.2.4). Unstructured questionnaires with open ended questions

were electronically distributed to twenty-four participants consisting of tutors and institutional management members. Five management members and five tutors on the South African research site, and six management members and eight tutors on the American research site completed the qualitative questionnaires. Qualitative questionnaires for managers and tutors are attached as APPENDIX J and APPENDIX K.

1.8.3.5 E-mail interviews

E-mail interviews (discussed in section 4.4.2.5) were conducted to follow up on virtual interviews and electronic qualitative questionnaires when answers required clarification or further elaboration was desired (Marshall & Rossman, 2016:181; Creswell, 2013:159; Savin-Baden & Major, 2013:363). The benefit was that participants actively engaged via e-mail communication over an extended period to clarify concepts described. A copy of an e-mail communication is attached as APPENDIX L.

1.8.4 Data analysis and interpretation

The researcher electronically transcribed voice recordings to text data to organise qualitative data from spoken and written words. The data collection and analyses of the multiple cases studied were examined in totality and then the different cases were compared by means of "cross-case analysis" to find similarities and differences in the multiple viewpoints present in each case (Burke Johnson & Christensen, 2014:437). Data analysis (discussed in section 4.4.3) was "concurrent and continual" (Burke Johnson & Christensen, 2014:458) and a preliminary analysis guided the researcher to redesign interview questions and to focus on central themes as the study progressed. The coding of concepts started after the first interview, and the most important data is presented via in vivo coding (Burke Johnson & Christensen, 2014:596). Concepts were then condensed into themes, categories and sub-categories, where related themes and categories appeared across the data (Burke Johnson & Christensen, 2012:600). The researcher continuously asked questions, practiced analytical thinking, and reflected on the data collected in order to develop a deeper understanding of the phenomena and to ensure research quality (discussed in section 4.4.4). The findings were compared with the research questions to determine its reliability and trustworthiness. Theoretical saturation occurred when all themes and categories had been well developed, and further analysis added no new information or emerging concepts (Burke Johnson & Christensen, 2014:461).

1.8.5 Trustworthiness

The trustworthiness (discussed in section 4.4.4.1) of any research is an important aspect to determine the accuracy, reliability, and validity of the study (Creswell, 2015:258; Burke Johnson & Christensen, 2014:299). Reliability refers to the measurement of consistency, where the same outcomes are replicated using different methodologies and when certain questions are answered one way and closely related questions are consistently answered in the same way (Creswell, 2015:258; Burke Johnson & Christensen, 2014:299). Validity refers to the valid findings and interpretations of the researcher where selective recordings of information, subjectivity, personal views and perspectives held by the researcher are eliminated to affect data interpretation (Creswell, 2015:158, 258; Burke Johnson & Christensen, 2014:299-300). To ensure research validity, the study was triangulated (discussed in section 4.4.4.1(a)1) through the use of document analysis, individual virtual interviews, qualitative questionnaires, and e-mail communications (Creswell, 2015:259; Burke Johnson & Christensen, 2014:299). For justification purposes, the researcher engaged participants in member checking (discussed in section 4.4.4.1(d)2) by submitting the case analysis and major findings to participants for their comments to be included as part of the researcher's case study report.

1.8.6 Ethical measures

In order to adhere to ethical issues (discussed in section 4.4.5), the treatment of research participants was considered an important and fundamental issue in conducting research (Burke Johnson & Christensen, 2014:127). The researcher, as a registered student at the University of South Africa (APPENDIX A), was granted permission to conduct research by the University of South Africa college of education ethics review committee before commencement of the research (APPENDIX B). An invitation and permission to conduct research was requested from both research institutions (APPENDIX C). After permission was granted from the two identified institutions (APPENDIX D and APPENDIX E), gatekeepers were assigned to assist the researcher to identify participants. With the assistance of gatekeepers, participants were invited via e-mail (APPENDIX F) and give their consent by completing a return slip (APPENDIX G) that accompanied the invitation letter in the consent letter, participants were informed of their right to withdraw from the study at any time without any consequences to them or their institutions. All participants involved gave their written consent prior to the study. They were then informed of the research purpose, their involvement, the procedures to be

followed, the risks involved, benefits, and the measures to be taken to ensure confidentiality (Creswell, 2015:147, 229). As this study involved human beings, it was the researcher's ethical responsibility to protect participants' and institutions' privacy and anonymity (discussed in section 4.4.5.2) by assigning a number to each individual and institution, which is discussed in chapter 4. Participants were assured that any data obtained from them was seen as private and confidential, not open for public viewing, and that neither them nor their institution would be identifiable in print or in any other way (Creswell, 2015:229). Both the character and integrity of the researcher manifested in the honest and ethical reporting of research results (discussed in section 4.4.5.3) (Creswell, 2015:279).

1.9 DEFINITION OF KEY CONCEPTS

1.9.1 Employability development

Private foundations, policymakers, and education organisations use a variety of names for the development of a broad set of skills that are seen as valuable. The National Research Council (2012:1) and World Economic Forum (2018:29-30) defines employability development as a set of skills labelled deeper learning, 21st century skills, fourth industrial revolution skills, career readiness, student-centred learning, next generation learning, new basic skills, and higher order thinking skills. These labels are used to include both cognitive and non-cognitive skills development to include critical thinking, problem solving, collaboration, effective communication, motivation, persistence, and learning to learn, which can be demonstrated within core academic content areas and are important for success in education, work, and life. These labels are also used to include other important capacities such as creativity, innovation, and ethics, which are important for success alter in life and may also be developed in formal or informal learning environments. For the purpose of this study the term 21st century skills will be used.

1.9.2 Blended learning

Martyn (2003:19), as cited in Van Tonder (2015:22), explains blended learning as a student-centred approach where online learning becomes a natural extension of traditional classroom learning, incorporating the dynamic nature of active, collaborative interaction to enrich the learning experience. It allows for flexibility of asynchronous, independent learning, with increased levels of cognitive activity.

1.9.3 Management

Management is 'the activity of getting things done with the aid of people and other resources' (Boddy, 2005:13; Van Tonder, 2015:23). The process of management (Smit, Cronjé, De J. Brevis & Vrba, 2007:9) includes four management functions, namely: planning, organising, leading and controlling of resources to achieve organisational goals. Kroon (2004:4), as cited in Van Tonder (2015:23), includes six additional management functions, namely: decision-making, communication, motivation, coordination, delegation and disciplining: "The approaches are complimentary to one another, rather than being substitutes for one another" (Kroon, 2004:7). However, the four basic management functions are the most important steps in the management process and follow in succession during each activity (Kroon, 2004:8).

1.9.4 Quality

For the purposes of this study, the researcher relied on the definition of Materu (2007:3), as cited in Van Tonder (2015:23), who refers to quality as the "fitness for purpose":

> *Meeting or conforming to generally accepted standards as defined by an institution, quality assurance bodies and appropriate academic and professional communities. A broad range of factors affect quality in tertiary institutions including their vision and goals, the talent and expertise of the teaching staff, admission and assessment standards, the teaching and learning environment, the employability of its graduates (relevance to the labor market), the quality of the library and laboratories, management effectiveness, governance and leadership.*

1.10 STRUCTURE OF THE STUDY

In chapter 1, the background of the study is set, followed by a theoretical framework in chapter 2, and a literature review in chapter 3. The research design and methodology are discussed in chapter 4, followed by the data analysis and interpretations in chapter 5. Chapter 6 concludes with a summary, recommendations and suggestions for future research.

Chapter 1: A holistic view of the study is presented through an introduction to and a background of the research, the problem statement, aims of the study, the research strategy and design, and the definitions of key concepts, followed by a conclusion.

Chapter 2: In establishing a theoretical framework for the research, adult teaching-learning in blended leaning environments is presented.

Chapter 3: The researcher was guided by a literature review on technology integration towards a knowledge workforce for 21st century employability.

Chapter 4: A description of the research design and methodology is presented to explore the ideas drawn from the literature review.

Chapter 5: Data analysis, research findings and interpretations are presented in this chapter. These are based on the findings from the document analysis, individual virtual interviews, qualitative questionnaires and e-mail interviews. The chapter offers interpretations of the findings.

Chapter 6: In the final chapter, the researcher concludes with a summary drawn from the literature review and empirical investigation, makes recommendations and indicates limitations based on the outcome of the study. The provision of a research-based guide to managing the quality of employability development in higher education through blended learning is proposed and suggestions for future research are included.

1.11 CONCLUSION

It is evident that enhancing the development of 21st century skills to improve the employability of graduates has become a world-wide challenge. The lack of growth-enabling policies to address the development of employability and 21st century skills in higher education suggests the use of a different modus operandi to explore the mismatch between the graduate output figure and the increase in unemployment. With South Africa's high unemployment rate among young people between 15 and 24 years old, higher education performance requires drastic action. Those graduates who do find employment are criticised by employers for the poor quality of their education despite their fulfilment of the required entry and exit standards and being declared competent. Using blended learning to address the development of employability skills has the potential to equip students with the appropriate skills essential for employment.

CHAPTER TWO: THEORETICAL FRAMEWORK: ADULT TEACHING AND LEARNING IN BLENDED LEARNING ENVIRONMENTS

'…if we teach today as we taught yesterday, we rob our students of tomorrow'. (Dewey, 1915 as cited in Boden-McGill & King, 2013: xvi).

2.1 INTRODUCTION

Global interconnectedness and technology advances shaped 21st century teaching and learning for adult students and continues to change it in staggering and substantial ways. The global rise in unemployment has influenced individuals to investigate alternative means to be self-sustainable. Information that is readily available through technology has resulted in a society that expects immediate and recent results (Van Tonder, 2015:52). Adult students and tutors are provided with instant access to a diversity of information, entertainment, opinions, social inclusion and perceptions from a wide range of intellectuals, writers, reporters and opinion makers with an even wider range of knowledge, predispositions and expertise. Adult teaching and learning is inevitability influenced by the world we live in at any given time, and curriculum designers have to try and keep pace with the knowledge, skills, and understanding that 21st century students require (Faulkner & Latham, 2016:137; Merriam & Bierema, 2014:1). In this chapter, adult learning and learning approaches, diversity teaching and learning, teaching and learning styles, and blended learning will be discussed. Key new discoveries in formal adult education has occurred in the last few years (Merriam & Bierema, 2014:1; Klein, 2012: xiii). Kalantzis and Cope (2012:11) observe that globalisation and social, cultural and technological advancement have brought new challenges which cannot be ignored in building a vision for future higher education, and suggest that a one-for-all teaching and learning approach does not suit the needs of society today or foster an all-inclusive teaching and learning approach. The focus in this chapter is on the nature of adult teaching and learning.

2.2 THE NATURE OF ADULT EDUCATION

There are different views of learning described in many different ways and theorists agree that there is no definition that includes all the necessary phenomena and excludes all other

phenomena to define learning. However, knowledge of learning and the principles of learning are significant when trying to understand human behaviour and structure the educational landscape (Van Tonder, 2015:51).

Globalisation, technology and the knowledge economy has influenced how adults prefer to participate and invest their time and space. However, Boyd (1966) and Rogers (1969), as cited in Anderson (2013:86), maintain that personal autonomy and freedom to choose were identified as key aspects in adult learning in the 1960s. Companies, according to Merriam and Bierema (2014:3), will seek knowledge workers and a workforce where an educational system is able to support and expand economic growth, and skilled workers will locate and if need be relocate to where they can best apply their knowledge and training. Spring, as cited in Merriam and Bierema (2014:3), refers to moving from a 'brain drain' phenomenon to a 'brain circulation' movement, 'where skilled and professional workers move between wealthy nations or return to their homelands after migrating to another country'. This knowledge society has an influence on teaching and learning systems globally and relates to 21st century competencies that include 'deep understanding, flexibility, and the capacity to make creative connections', including a 'range of soft skills' and 'good team-working', opposed to traditional educational approaches that are insufficient (Dumont & Istance as cited in Merrian & Bierema, 2014:4).

Parker (2013:54) notes that there is little doubt that technology is changing how adults learn and that the 'technology infused lives of today's students' is not only influencing the context of learning, but learning itself. Technology is not merely a device used as an instrument, but technology has permeated every aspect of society to fundamentally change the thought processes in learning and the way information is managed and processed (Parker, 2013:55). The use of technology inevitably has expanded the growth of educational institutions worldwide and created strong competition for traditional educational institutions. Although the demand for the use of technology education is high, the effectiveness may be low as innovation in technology exceeds corresponding changes in pedagogy (Sonwalker, as cited in Merriam & Bierema, 2014:193). However, Merriam and Bierema (2014:195) note that technology learning in higher education is an undeniable trend where both student and tutor have to be guided.

The amount of information available via technology is usually appealing, often irresistible, and sometimes intimidating. Technology affects what adults learn, how they learn and how they

should be taught (Merriam & Bierema, 2014:205). Bryan, as cited in Merriam and Bierema (2014:201) and supported by Parker (2013:61) and Brookfield (2013:21), suggests that tutors need to assist and empower students to become critical consumers of information available through technology. By offering tutorial classes in information literacy, tutors can assist students with how to review internet sources with a critical eye to evaluate information for credibility, relevance, and accuracy. Tutors should develop and promote in their students effective search strategies to assess information on the basis of relevance, currency, objectivity and purpose, so they become skilled at corroborating the credentials of the source of information, and are able to participate in the dissemination, examination and adoption of information to expand their knowledge base. Traditional higher education and learning is under pressure to meet student demands for new educational models and delivery formats in a cost effective manner (Van Tonder, 2015:139). Following an extensive literature study, different learning approaches and theories were reviewed to identify commonalities and differences in adult learning, and these will be discussed in the next section.

2.3 LEARNING THEORIES

Learning as a process and not an end result of getting to know new things and reproducing those things at a later stage, is embedded in the world in which we live; and according to Jarvis (as cited in Merriam & Bierema, 2014:1-2), learning rarely occurs 'in splendid isolation from the world in which the learner lives;…it is intimately related to that world and affected by it'. What one wants to learn, what is offered, and the ways in which one learns are determined to a large extent by the nature of the society at any particular time (Van Tonder, 2015:52; Kalantzis & Cope, 2012:22). Learning theories, according to Merriam and Bierema (2014:25) and Harasim (2012:4), provide explanations of how adult learning happens and can be converted into practice.

2.3.1 Adult learning

The learning theory employed by adult students determines what they see, consider as important, and how they intend to use it in practice. In understanding adult learning, tutors can reflect on their own teaching practices and improve, reshape and refine their product. Moreover, learning theories for the tutor not only present ways to acknowledge and make sense of what has already happened or is happening, but to envisage new worlds and new ways of

teaching (Harasim, 2012:4). It is however evident that there is disagreement on the number of theories and on which perspectives constitute learning theories. The focus of learning theories reflects the times in which they emerged. For the purpose of this study, instrumental learning theories that focus on individual learning experiences include behaviourism and cognitivism, humanist learning theory – which promotes individual development and is more student-centred – and social learning theories, which focus on social activities and include constructivist and online collaboration learning approaches (Taylor & Hamdy, 2013e:1562), will be discussed.

2.3.1.1 Behaviourism – learning equals a change in behaviour

From a behaviourist point of view, the concept of change in behaviour is inherent in the concept of learning. According to Burton (1963:7), learning equals a change in the individual, which results from his/her interaction with the environment and a 'change in behaviour as the result of experience' (Van Tonder, 2015:51; Haggard, 1963:20). The behaviourist view of learning is that all behaviour can be explained as a product of learning, which brings about a change in behaviour by virtue of experience. This change in behaviour must be observable and measurable. On this basis, suitable stimuli will condition appropriate behaviour, which will produce specific results. From an educational perspective it implies that, after learning, the student does something that he/she would not have done before learning had taken place. The changes in behaviour and probability of acting differently as a result of learning may not be translated into behaviour until a later time (Van Tonder, 2015:52; Olson & Hergenhahn, 2013:2). Well-known behaviourists like Ivan Pavlov, John B. Watson, Edward Thorndike, and B.F. Skinner all accepted learning as a process where behaviour is changed, shaped or controlled into a more desired behaviour (Knowles *et al.,* 2015:14; Van Tonder, 2015:52; Harasim, 2012:11).

The Nobel Prize winner in Medicine in 1904, Ivan Pavlov (1849-1936), is considered the intellectual founder of the first major theory of learning. He began to study the relationship between stimulus and response and established that behaviour could be manipulated through specific conditioning to result in desired outcomes, and noted that the repetition of certain behavioural patterns led to the pattern becoming automatic (Harasim, 2012:32). He further noted that behaviour could be manipulated or learned, and if behaviour is repeatable and visible, then it is real. John B. Watson (1878-1958) elaborated on the theory of Pavlov and he

invented the term ‘behaviourism’ (Harasim, 2012:33). Edward L. Thorndike’s (1874-1949) ‘connectionism’ was situated in the connection between sensation and impulse, and reinforced the understanding that learning outcomes, like all behavioural theories, are related to associations between stimuli and responses (Harasim, 2012:34). Whilst the work of Burrhus F. Skinner (1904-1990) differed from that of his Pavlovian predecessors, his work is also associated with the behaviourist learning theory (Harasim, 2012:34). For Skinner, voluntary behavioural conditioning, as opposed to Pavlov’s classical conditioning, showed that behaviour could be conditioned by using positive and negative reinforcement. This approach to learning is used to promote positive, desirable behaviour and to discourage negative behaviour, which is discouraged or penalised. According to Harasim (2012:37), a number of classroom operations find their roots in this theory.

Applying behaviourist learning results in learning that promotes the standardisation of learning outcomes, which often leads to the main issue of who determines the outcomes and how are they measured (Taylor & Hamdy, 2013e:1562). This learning theory does not support differences in culture, background, social and educational experience, and different knowledge levels. However, it supports a tutor-centred approach with more responsibility on the tutor to direct the learning process. This entails more passive student-tutor interaction, little responsibility on the student for his/her learning, accommodating lower-level processing skills, and learning content that is often isolated from real-world situations. Direct instruction as a behavioural learning approach is still an integrated part of adult education practices today when particular learning outcomes are required. These education practices still encourage students to remember, memorise, and reproduce information, but there are other, more modern learning approaches that yield more favourable results by employing problem solving, critical thinking, and logic in learning (Van Tonder, 2015:56; Merriam & Bierema, 2014:27; Taylor & Hamdy, 2013e:1562; Bryant, Vincent, Shaqlaih & Moss, 2013:98).

2.3.1.2 Cognitivism – learning equals a mental process

The cognitive learning theory emerged from limitations found in the behaviourist theory of learning that what one ‘cannot see or measure does not count’ (Merriam & Bierema, 2014:31; Harasim, 2012:11). This premise caused challenges for researchers who were unable to explain the “invisible” elements of thought, decisions, introspection and most human behaviour unrelated to stimulus and response behaviour. Cognitivists were interested and concerned with

what comes between stimulus and response and therefore did not reject the behaviourist science completely; but shifted the emphasis from external behaviour to a focus on internal mental processes where learning is seen as a continuous process with the student entering the learning process with some form of prior knowledge (Merriam & Bierema, 2014:31; Olson & Hergenhahn, 2013:281). Cognitivist theorists argued that intellect, visualisation, theorising, reasoning and like processes were essential to human learning, thought, and action (Merriam & Bierema, 2014:32; Mayes & De Freitas, 2013:20; Harasim, 2012:47). Thus, the cognitive learning theory can be explained as how the adult student uses intellect and senses to process information. This perspective soon replaced behaviourism as the major school of thought (Harasim, 2012:47). The cognitive learning theory was influenced and often associated with computer information processing where the mind is viewed as a processor of information, much like a computer. The metaphor holds that in the same way computers convert data and programmes using memory and a central processing unit, so too does the mind convert information as symbols and procedures (Merriam & Bierema, 2014:31; Harasim, 2012:48).

Jean Piaget (1896-1980) is considered an innovator in the area of cognitive learning (Merriam & Bierema, 2014:32) and, according to Merriam and Caffarella (as cited in Knowles *et al.*, 2015:208) the point of departure of most adult cognitive development theories is the work of Piaget. Piaget noted four stages of cognitive development which provided the basis for theory development in adults. In his stages of cognitive development the human being moves from the infant stage of sensory-motor response to stimuli, to the early childhood stage of being able to represent actual objects in symbols, thoughts and words, to comprehending perceptions and relationships in middle childhood to being able to reason theoretically and abstractly (called formal operation) at the onset of mature adulthood (Knowles *et al.*, 2015:208; Merriam & Bierema, 2014:32; Olson & Hergenhahn, 2013:275; Harasim, 2012:63). Some reservations have been expressed about his rigid categories and his model, which seems to imply that cognitive development stops upon reaching adulthood. Many adult learning theorists disagree with this notion and have focused on numerous ways in which cognitive development continues beyond the stage of formal operation (Knowles *et al.*, 2014:110; Merriam & Bierema, 2014:32; Olson & Hergenhahn, 2013:283; Harasim, 2012:65). However, cognitive learning theories are particularly useful in assisting tutors to understand why some adults might find specific tasks difficult, and determining possible learning interventions for the student who has not reached a particular stage (Knowles *et al.*, 2015:209). This concept of learning is included in Robert M.

Gagné's (1916-2002) instructional design for learning. For Gagné, instruction was the transmission of information designed and presented by the tutor to prompt suitable behaviour in the student. In turn, the role of the student was to successfully respond to the stimuli, as presented in table 2.1 (Harasim, 2012:50).

Table 2-1: Gagné's theory of instruction (Harasim, 2012:51)

LEARNING OUTCOMES:	SPECIFIC CONDITIONING FOR LEARNING:	EVENTS OF INSTRUCTION:
• Verbal information • Intellectual skills • Cognitive strategies • Attitudes • Motor skills	• Verbal information • Intellectual skills • Cognitive strategies • Attitudes • Motor skills	• Gaining attention • Informing student of objective • Stimulating recall of prior knowledge • Presenting stimulus • Providing learning guidance • Eliciting performance • Provide feedback • Assessing performance • Enhancing retention and transfer

Gagné's theory includes a taxonomy of learning outcomes, similar to Bloom's systematic classification of intellectual skills, attitudes and psychomotor skills, both focusing on learning outcomes and the importance of creating a classification system of learning into categories. Bloom's taxonomy is often used for curriculum planning and developing learning objectives (Merriam & Bierema, 2014:34). Gagné's theory of instruction as seen in Table 2.1 includes three major categories with subcategories. His Learning Outcomes category comprises of five subcategories where each outcome leads to a different type of performance. In his Specific Conditions for Learning category he describes the building blocks necessary for instruction for their vital role in learning the various outcomes. Different learning outcomes call for different learning conditions. Gagné's nine methods and procedures presented in sequential order to facilitate specific learning processes, tie together his instructional theory. These events of methods and procedures are proposed to enhance the transfer of knowledge through the stages of memory, much like computerised information processing (Merriam & Bierema, 2015:34;

Harasim, 2012:51). Harasim (2012:53) supports Merriam and Bierema (2014:34) when they maintain that his theory is still in use today, particularly in adult learning, military training and when tutoring from a cognitivist theory perspective.

The adult student's ability to recognise, understand and control his/her own cognitive processes in order to predict, identify and rectify skills deficiencies as they emerge are influenced by prior knowledge and experience (West, Hannafin, Hill & Song, 2013:133) and refer to metacognitive skills (Mayes & De Freitas, 2013:20). Metacognitive skills provide both tutor and student with the ability to know how and when to apply previously acquired knowledge and skills pivotal to their teaching and learning performances (Flavell, 1980 as cited in Knowles *et al.*, 2015:285). The degree of awareness required to identify, manage and revise these skills differ individually (Flavell, 1977 as cited in West *et al.*, 2013:133). In the process of learning where the adult student becomes more knowledgeable and experienced, West *et al.* (2013:133) state that students' increased metacognitive skills and awareness become particularly relevant when learning with technology. When learning with technology, it is evident that many time-tested cognitive perspectives apply and with the availability of technological tools to support self-directed learning, many cognitive perspectives can be adjusted (West *et al.*, 2013:125). From the cognitivist paradigm of Boyd (1966) and Tough (1971), as cited in Anderson (2013:87), adult students select and transform information, formulate learning goals, make decisions, and evaluate their own learning outcomes. Jerome Bruner, also interested in the process of intellectual growth, (as cited in Knowles *et al.*, 2015:109-110) had a basic theory about learning, which involves three processes:

- Acquisition of new knowledge to replace previous knowledge.
- Transformation of knowledge to fit new knowledge.
- Evaluation of whether the new knowledge is adequate for a specific task.

The cognitive learning theory, guided by intrinsic motivating factors for effective learning, focuses on self-regulation, behavioural and emotional aspects, which for the tutor can be useful to facilitate learning and plan instruction of adults (Merriam & Bierema, 2014:35). The cognitive learning theory is regarded as tutor led, focussing on individualised learning approaches and methods, and still remains strong in adult higher education. Despite the inventiveness of cognitive learning theories and their impact on higher education (Harasim,

2012:58), the role of the adult as an individual and self-directed student could not be ignored. The humanist learning theory will be discussed in the next section.

2.3.1.3 Humanism – learning equals development of an individual

Humanist theorists dismiss the concept of change in behaviour as predetermined by either the environment or one's subconscious and prefer to define significant learning in terms of unlimited potential for growth, the development of one's skills, and one's personal involvement and self-initiated discovery of learning to give meaning and value of experience in the learning process that includes mind, body and soul (Knowles *et al.*, 2015:15; Merriam & Bierema, 2014:30). Prominent humanist theories include Abraham Maslow's (1970) self-actualising goal of learning and Carl Rogers' (1983) theory of becoming a fully functioning individual (Knowles *et al.*, 2015:31; as cited in Merriam & Bierema, 2014:29). Both theorists underpin the perspective that human beings can control their own destiny and that behaviour is the consequence of human choice. More than forty years ago, Rogers (1969) expressed a contemporary view that, in this high-speed globalised world, lifelong learning is crucial for survival (as cited in Merriam & Bierema, 2014:31). He wrote that an educated person is one 'who has learned how to learn…how to adapt and change' and realises 'that no knowledge is secure, that only the process of seeking knowledge gives a basis for security'. In his early writings, Rogers (1969) (as cited in Knowles *et al.*, 2015:122) explained the role of the tutor as that of a facilitator of learning, emphasising the personal relationship between tutor and student and underlining key guidelines to facilitate adult learning, noting that the facilitator:

- Establishes the learning mood or climate which is often based on the facilitator's own basic philosophies and will be communicated in many indirect ways.
- Contributes to establishing and clarifying specific and more general purposes of individual and group learning.
- Serves as the motivational force behind meaningful learning.
- Provides the widest possible range of resources for learning.
- Assists and acts as counsellor, advisor and supporter in a flexible manner.
- Endeavours and is willing to respond to expressions of both cognitive and affective viewpoints with trust and respect.

- Is flexible to become a participant student and member of the group expressing own individual views.
- Takes initiative in sharing views, feelings and attitudes without imposing judgemental evaluations of others.
- Remains alert to interpersonal attitudes, beliefs, and individual differences and is open to constructive understanding and reasoning. (This point is supported by Candy, as cited in Merriam & Bierema, 2014:37).
- Acknowledges, accepts and addresses own limitations.

With technology learning unheard of at the time of Carl Rogers' guidelines for teaching adults, his learning theory demonstrates 21st century teaching and learning approaches. Another learning theory rooted in the humanistic psychology (Merriam & Bierema, 2014:31) is Malcolm Knowles' writings on andragogy. His learning theory, which is seen as the cornerstone of adult learning, suggests that adult students become more independent and self-directed, are internally motivated, can use experience to support their learning, and make their own decisions on growth and development (Knowles *et al*., 2015:43-47; Merriam & Bierema, 2014:31). Based on Knowles' model of assumptions (Knowles *et al*., 2015:43; Merriam & Bierema, 2014:47) the goal of andragogy is to transform the teaching-learning experience from tutor-directed to student-directed, thus encouraging independent and self-directed learning and involving the student in as many aspects of learning as possible to foster a physically and psychologically supportive adult learning climate (Van Tonder, 2015:19). His approach is based on the differences between adult learning and child learning. Despite the question of whether Knowles's approach can be defined as a theory, a model of assumptions (Knowles, 1980), or a system of concepts (Knowles, 1984) (as cited in Merriam *et al.*, 2007:85; Merriam & Bierema, 2014:46) – as Knowles has also called it – the following six assumptions for adult learning still holds (Knowles *et al.*, 2015:43-47):

- Adults 'need to know' (Knowles *et al.*, 2015:43) and make a conscious decision why they should learn something.
- Adults have a self-concept of being responsible for their own decisions and their own lives and avoid situations where they feel that others' opinions are imposed on them. According to Knowles *et al.* (2015:44), this probably accounts in part for a high dropout rate often found in voluntary adult education.

- Adult learning should be based on the student's previous experience. The accumulation of experience through collaboration is a resource that could lead to possible new learning approaches and deeper experiences which often reside in adult students themselves.
- Adults' readiness to learn signifies the timing of learning experiences to correlate with specific developmental tasks and could be encouraged through exposure, simulation techniques, counselling, etc.
- Adults' orientation to learning is significant as adults are more problem-centred than subject-centred in their preference to learning, especially when learning could be applied to real-life situations.
- While adults are responsive to some external motivators to learn (promotion, higher salaries and more), the most powerful motivators are still internal. However, according to Knowles *et al.* (2015:47), this motivation is often challenged by adults' negative self-concept as student, the inaccessibility of opportunities or resources, time constraints, and other obstacles.

The humanistic learning theory has had and today still has a far-reaching effect on adult learning, moving from a tutor-centred to a student-centred approach where the tutor is seen as the facilitator of self-directed learning rather than a vending machine of knowledge (Merriam & Bierema, 2014:31). Another student-centred theory, which focusses on how adult students construct meaning from experience, interaction and discussion will be discussed next.

2.3.1.4 Constructivism – learning equals meaning from experience

Rather than viewing knowledge as truth and something to be enquired from someone else who are already possessing it, constructivism posits that knowledge has to be created. For constructivists, knowledge acquisition is observed as the consequence of interaction between new experiences and what has already been created (Knowles *et al.*, 2015:207). In the view of Jerome Bruner and Jean Piaget (as cited in Knowles *et al.*, 2015:109), learning is an active process where new ideas are constructed and information processed according to the student's present and prior knowledge. Olson and Hergenhahn (2013:281) maintain that educational settings should provide the student the opportunity for self-discovery.

The social movements had a strong impact on adult learning and Harasim (2012:7), as supported by Schunk (2012:230), states that learning is created through interaction and

discussion and that students develop their own understanding and knowledge through real-life experiences and reflection on those experiences. It is the antithesis of the cognitivist view, which came under fire for arguing that humans could be programmed like computers to always respond to a stimulus in the same way. Duffy and Jonassen (as cited in Knowles *et al.*, 2015:177) argues that these cognitive views partially explain the emergence of constructivism as a new perspective on learning. Schunk (2012:230) notes that knowledge is not established externally, but rather constructed from within the individual. The construction is personal, and what might be true to one individual might not be true to someone else, as human beings produce knowledge based on their beliefs and experiences. Thus, how people construct meaning by making sense of their experiences through active participation and interaction with others. All forms of constructivism acknowledge learning as an active rather than a passive encounter where learning occurs through dialogue, collaboration, and cooperative learning, which in turn has important implications for adult teaching and learning (Van Tonder, 2015:18; Merriam & Bierema, 2014:36; Brookfield, 2013:19; Schunk, 2012:231; Harasim, 2012:60). The constructivist learning theory encourages self-directed learning where students take ownership of their learning and decide when, where, and how to learn (Tough, 1967, 1971, 1979; Knowles, 1975; Spear, 1988; Brockett & Hiemstra, 1991; Garrison, 1997, all cited by Merriam, Caffarella & Baumgartner, 2007:110-116). The traditional ways of teaching should therefore restructure teaching and learning situations where students become self-regulated, and are actively involved through social interaction and collaboration with others (Schunk, 2012:231). The major theorists associated with constructivist learning approaches were Jean Piaget (1896-1980), John Dewey (1938) and Lev Vygotsky (1896-1934), all of whom emphasised the need for active involvement, reflective thought, and the understanding of previous experience connected to new information (as cited in Merriam & Bierema, 2014:36; Harasim, 2012:12; Schunk, 2012:229; Tapscott & Williams, 2010:21).

Although some theorists are associated with more than one learning theory, Piaget is seen as a visionary in the area of cognitive learning theory (Merriam & Caffarella as cited in Knolwes *et al.*, 2015:208; Merriam & Bierema, 2014:32). He received criticism for a number of issues pertaining to the many disciplinary languages and confusions contained in his vast number of publications (Merriam & Bierema, 2014:181; Harasim, 2012:65). Aspects of Piaget's theory are also rooted in the constructivist learning theory, acknowledging the important role of experience in the student's ability to process information (Merriam & Bierema, 2014:49).

Piaget's theory of cognitive constructivism posits the student as an individual that changes in terms of biological developmental stages, allowing the student to construct meaning at more sophisticated levels through experience (Merriam & Bierema, 2014:36; Schunk, 2012:232; Harasim, 2012:61).

Dewey observes learning as a continuous process which involves the application and adjustment of previous experiences to new situations. The knowledge and skills obtained in one situation becomes instrumental for understanding how to deal effectively with new situations that follow, and all learning obtained in the present is connected to past experiences. Adult students who enter into learning often have a variety of life experiences which can be drawn on in a learning situation, but which also stimulate the need for learning. Therefore, adult students do not only connect with past experiences to foster new learning, but their ongoing experiences often require new learning (Merriam & Bierema, 2014:106). Dewey notes the 'highest value in adult education is the student's experience' (Merriam & Bierema, 2014:105). However, negative learning experiences could potentially obstruct richer future experiences and Dewey also noted that prior learning experiences in adults such as specific mental habits and perceptions, can often act as a barrier to future learning. This necessitates corrective action to first 'unlearn' earlier methods and predispositions (Merriam & Bierema, 2014:106). Dewey's view of experience as a learning theory is that experience is always the starting point of an educational process and never the result (Dewey as cited in Knolwes *et al.*, 2015:131). A significant observation from Knolwes *et al.* (2015:131) is that many of Dewey's views were exaggerated, twisted and misunderstood a few generations ago. Today, with unlimited learning possibilities at our fingertips, these same views emerge as fresh and useful thoughts.

Vygotsky's learning theory is seen as the most prominent in terms of constructivism (Harasim, 2012:66). His constructivist theory emphasises the role of social encounters amongst students and focuses on the relationship between the cognitive processes and the student's social actvities as opposed to the individual activities of Piaget's perspective (Merriam & Bierema, 2014:36; Schunk, 2012:232; Harasim, 2012:67). Humans, according to Vygotsky (Harasim, 2012:66), engage in dialogue through speech and thought to construct meaning; social interaction is an essential part of cognitive development. Most theories of human development focus on the individual; Vygotsky holds that socialisation leads to higher cognitive functions.

The primary aspects included in the social constructivism of knowledge, according to Merriam and Bierema (2014:37), are self-directed learning, transformative learning, experiential learning, collaboration, and reflective practices. Brown and Adler (as cited in Tapscott & Williams, 2010:20) report on the social constructivist learning approach with the emphasis on how students acquire knowledge and not what knowledge students acquire. This opposes the Cartesian approach of 'I think, therefore I am…', which in turn contrasts with the social approach to learning, 'We participate, therefore we are'. The constructivist learning theory accommodates and encourages a variety of technological applications in terms of the potential for knowledge construction (Van Tonder, 2015:54). However, the 21st century brought with it an entirely new mode of learning. Online collaborative learning, as explored by Harasim (2012:80), is the subject of the next section where it is discussed as the major driver for higher education transformation.

2.3.1.5 Online Collaborative learning – learning theory for the 21st century

Harasim (2012:12) concluded that online collaborative learning builds on previous learning approaches but offers a new perspective. With the shift away from the industrial age towards the digital age, technology has become a leading variable in adult learning. Calfee (2006:35) writes on the role of technology in higher education given the remarkable impact of technology elsewhere in society:

> *…today's classroom is remarkably unchanged from the end of the 19th century. The cast of characters and the activities remain virtually unchanged, along with the length of the school day and year and several other parameters. …numerous innovations; …radio, television, and even telephones have minimal presence in today's classrooms. Systems that we take for granted outside the school walls – computers, the Internet, PDAs, handhelds – are either somnolent or prohibited.*

Harasim (2012:13) is supported by Faulkner and Latham (2016:138) in noting the importance of these issues in the call for new learning theories to be investigated and linked to practice and real life, particularly for adult students in the 21st century – a place where information is available at one's fingertips. Online collaborative learning as a theory of learning (Faulkner & Latham, 2016:138; Harasim, 2012:81) focuses on collaborative learning, knowledge building,

and the use of technology as processes to reshape and rethink adult teaching and learning for the digital age. Global research and practice indicate that online collaborative learning has the potential to enable contemporary and more advanced learning options (Faulkner & Latham, 2016:138; Van Tonder, 2015:144; Harasim, 2012:81). The significant shift from an industrial age to one of a knowledge age of information and communication acknowledges that routine skills are no longer the essential skills to learn. In order to be successful, students require skills in using information to solve problems. The experiences and expectations of adults learning in a knowledge age challenge learning to go beyond active and self-directed learning into creating and constructing knowledge by inventing and exploring innovative ways to solve problems through effective communication and collaboration with others in joint decision making, rather than students reciting what they think is the right answer (Harasim, 2012:12). Faulkner and Latham, (2016:138) supported by Parker (2013:61), note the tutor's role in assisting students to move away from seeking the right answers to questions, as answers are available everywhere and calls for tutors to unlearn much of what has been regarded and claimed as relevant in 20th century learning and replace it with a mindset that can be adapted to new learning strategies. A new educational goal where students master the process, evaluate the source, and question information should be set as it is evident that information available on the internet is open and accessible to all. There is no regulatory body to validate the reliability of information, which in turn raises questions on quality, accuracy and credibility of information (Knowles e*t al.*, 2015:214). This in turn proposes significant challenges to prospective educators having to teach with technology and stay abreast without sacrificing the core fundamentals and principles of teaching. However, for successful future-oriented teaching, a pedagogical shift from reactive to proactive thinking is needed. Van Tonder (2015:109) concludes that traditional ways of teaching do not fit the bill of future-oriented learning: '[M]y traditional lecturing approach would not sail'. This view is shared by Faulkner and Latham (2016:147) in their finding that the qualities needed in 21st century tutors are the same qualities required in students.

In online collaboration learning, the tutor fills an important role in leading and linking the student to construct knowledge through active participation and discussions connected to a knowledge community, which the tutor also represents (Evans, Kurantowicz & Lucio-Villegas, 2016:2; Harasim, 2012:90; Starkey, 2012:111). Drawing on Vygotsky's social collaborative theory for knowledge construction (Harasim, 2012:90; Schunk, 2012:240), he suggests that social interaction transforms learning experiences. Hrdy, as cited in Harasim (2012:90), holds

that anthropologists view intentional collaboration and discussion as an unique human characteristic essential in society and Vygotsky (1962), as cited in Schunk (2012:243), postulates that all higher order skills originate in the social environment. Many new challenges emerged with the onset of the digital age, and this includes training and recruitment of knowledge workers, bridging cultural and economic divides, and more (Bennett & Bell as cited in Merriam & Bierema, 2014:191). However, Merriam and Bierema (2014:208) and Sharpe and Pawlyn (as cited in Beetham & Sharpe, 2013:38) agree that collaborative learning with technology provides opportunities for adult students to share and test their own knowledge. It assists tutors to identify and recommend corrective action and encourages self-directed learning. Kalantzis and Cope (2012:69) reiterate, stating that students who excel at collaborative learning start to practise individualised learning in a new way and soon individualised activities become collaborative. However, irrespective of the number of adult learning theories, there is no all-inclusive theory for adult learning and adults find themselves in environments with enormous learning needs (Van Tonder, 2015:54; Brookfield, 2013:18). The next section explores adult learning approaches.

2.3.2 Adult learning approaches

Although people learn in different ways and there are many theories that explain adult learning, there has been a keen interest in understanding adult learning that brings deep change and transformation (Van Tonder, 2015:55). The transformation from traditional adult learning theories to more modern adult learning approaches reflects the shift from tutor-directed to student-centred learning, and is largely influenced by globalisation, the information society, technology, and changing demographics (Merriam & Bierema, 2014:2). It is evident that skilled workers relocate to where their knowledge can be utilised. Borders and boundaries are transcended by technology that enables them to experience the diversity of the world's seven billion people (Merriam & Bierema, 2014:7). Notable is that more modern learning approaches emphasise collaborative learning as opposed to individual activity, where adult students share similar experiences, can challenge one another in ways a tutor cannot, and also create a caring environment where students collaborate around complicated aspects, concepts, skills and attitudes (Akyol & Garrison, as cited in Van Tonder, 2015:58). The interchange of technology and globalisation in a digital age where information is continually changing is shaping not only the context of learning, but learning itself (Merriam & Bierema, 2014:5), and this leads to more

intense and diverse interactions across societies (Farmer as cited in Van Tonder, 2015:135). Learning for adults depends on the learning circumstances, and for Merriam and Bierema (2014:16), all learning happens in social settings, divided into formal institutional, non-formal, informal and online learning settings. Formal institutional learning is distinguished from non-formal learning, which represents short-term, often workplace training and consists of flexible components. Informal learning is defined as spontaneous and unstructured, and labelled 'everyday learning' by Illeris (2004) (in Merriam & Bierema, 2014:17), which is embedded in the daily lives of adults. Online learning environments include formal, non-formal, and informal, which allows for more modern ways of including intentional and nonintentional learning (Merriam & Bierema, 2014:196). This study focusses on the online learning environment.

Adult students' approach and preference for self-directed learning relates to how they are used to directing different aspects of their lives. Evident from the research of Van Tonder (2015:117) and supported by the U.S. Department of Education (2010: xiv), was that students in online collaborative learning environments where students have control over their own learning, performed better than face to face, tutor-directed learning. The research of Schulz and Roβnagel (as cited in Raemdonck, Meurant, Balasse, Jacot & Frenay, 2014:79) states that where adults have little control over their learning and the learning is isolated and unsociable, learning outcomes are less favourable. This is opposed to adult learning approaches where students have more opportunities to manage their learning according to their own capabilities and needs with increased opportunities of experience-based learning (Van Tonder, 2015:58).

2.3.2.1 Experiential learning

Adults' experiences are shaping their learning, positively or negatively, and all forms of learning are experiential. The role of adults' prior learning experiences in shaping learning is strongly linked to the role of current experiences in shaping their need to learn (Knowles *et al.*, 2015:181; Merriam, 2014:106). It was Knowles (1980) who emphasised experience as the main resource that adults accumulate and develop an increasing supply of experience is a rich source of reference and also a stimulus for new learning (Merriam & Bierema, 2014:106). Knowles' andragogical model of adult learning emphasises the role of students' experiences, and postulates that the richest resources for learning reside in students themselves and that adults tap into one another's experiences through collaboration activities such as group discussions,

problem-solving activities, peer-assisted activities, and more (Knowles *et al.,* 2015:45). The pragmatist David Kolb (1984) has been a leader in developing and promoting experiential learning and his experiential learning model draws strongly on the work of Dewey (1938) (Knowles *et al.,* 2015:131; Merriam & Bierema, 2014:104; as cited in Zijdemans-Boudreau, Moss & Lee, 2013:115). Kolb's model highlights that learning is a lifelong process and emphasises the role of reflection on acquired knowledge: it underlines interaction, stresses critical engagement with others, and draws attention to knowledge implementation in real life situations rather than formal authority. Kolb suggested four steps in his experiential learning cycle which today is still widely used in organisational development according to Cummings and Worley (as cited in Knowles *et al.,* 2015:181) and very relevant in technology learning environments:

- Actual experience – which involves 'here and now' experience such as simulation, case study, real experience and demonstrations.
- Monitoring and reflection – which include adults' experiences from many perspectives such as discussion, small groups and appointed observers (to monitor students' online platforms).
- Formation of abstract conceptualisation – opinion sharing through collaboration and incorporating students' observations and critical thinking skills.
- Active experimentation – through using real life experience, practice sessions and laboratory experience to make decisions and solve problems.

It can, however, be argued that Dewey's theories of teaching and learning are the most influential in adult learning today, as his work resulted in acknowledgement of the influence of experience, deeper understanding, continuity, refining and collaboration when adults learn (Knowles *et al.,* 2015:147). As Dewey noted, Knowles also acknowledged that prior experience and predispositions can obstruct new learning as adults have accumulated particular preferences, mental habits and biases which might have potential negative effects on new alternatives as cited in Merriam and Bierema, (2014:106) and Knowles *et al.* (2015:45). There are times when specific learning has first to be unlearnt through sensitivity training and other techniques in order to enable new learning, particularly with innovative discoveries and new research related to multiple disciplines (Kolb as cited in Knowles *et al.,* 2015:181; Merriam & Bierema, 2014:106). There is growing acknowledgement from various study fields that adults'

experiences have a significant influence on their learning process (Knowles *et al.*, 2015:179). However, through collaboration with others, experiential learning is used to actively engage students to construct meaningful relations between theory and practice, to increase performance change in employees, and to transform adult learning into effective professional development (Knowles *et al.*, 2015:183; Merriam & Bierema, 2014:107; Zijemans-Boudreau *et al.*, 2013:117).

2.3.2.2 Transformative learning

Transformative learning can be identified as an adult learning approach of how adults make sense of their own life world experiences and make meaning in their lives to be active theory makers (Merriam & Bierema, 2014:84). When adult students' prior disposition and viewpoints are found insufficient to accommodate present experiences, adults find new ways of thinking and dealing with challenges. Therefor adults' meaning-making process becomes transformed into one that is more accommodating of their real-life experiences (Merriam & Bierema, 2014:107) and, according to Cranton and Taylor (2012:16), 'has brought a new and exciting identity to the field of adult learning'. Transformative learning, first articulated by Mezirow (1978) as cited in Merriam and Bierema (2014:84), is considered the form of learning adults engage in, and has become the learning theory most studied and written about since Knowles' model of assumptions on andragogy in the 1970s (Merriam & Bierema, 2014:82). He discovered transformative learning as the process of making meaning of one's own experiences through questioning, self-examination and reflection and to transfer those experiences into one's real life situations through a cognitive and rational process (Merriam & Bierema, 2014:84; Brookfield, 2013:18; McLeod, 2008:1). However, the early notions of Mezirow's cognitive and rational process of making meaning through experience that required thinking, reflection, questioning and examination of one's own assumptions and beliefs, was reviewed by a number of other approaches beyond the rational and cognitive to include emotions, relationships, culture, aesthetics, ecology and the unconscious at the centre of transformative learning (Merriam & Bierema, 2014:86-87). In the view of Charaniya, (2012:238), this kind of transformative learning is not limited to rational discourse, but deeply depends on engaging in an 'ongoing, cyclical smorgasbord of opportunities to dialogue, share stories, explore symbols, and learn from each other'. Kasworm and Bowles, as cited in Merriam and Bierema (2014:91), note that 'higher education is a natural site for transformative learning to occur', as those

educational settings present opportunities 'to think, to be, and to act in new enhanced ways…sometimes challeng[ing] individuals to move beyond their comfort zone of the known, of self and others'.

If they want to remain relevant and keep up with the pace of change in 21st century learning, it is nearly impossible for higher education institutions to avoid addressing new technologies, globalisation, diverse classrooms and the changing nature of work. In online learning environments, promoting and studying transformative learning and assessing this type of learning is still relatively new (Merriam & Bierema, 2014:92). Sharpe and Oliver (2013:169) postulate that a transformative redesign of curriculum may be a good starting point on institutional change agendas. Kalantzis and Cope (2012:60) found that digital students take exception to traditional classroom and didactic pedagogies in the same way tutors are affronted when their professionalism is challenged by dictating what, when, and how they should teach. Although transformative possibilities are open and available, tutors need to be keen observers of change to the transformation of the society at large. Kalantzis and Cope (2012:61) state that 'better students will better contribute to the making of a better society'. However, numerous writings and reports suggest that technology and educational strategies be employed to foster transformative learning. A research study by Van Tonder (2015:136) illustrated that through transformative learning, adult students think for themselves and take ownership of their personal and social roles. This finding is supported by Kalantzis and Cope (2012:62).

2.3.2.3 Self-Directed learning

One assumption of approaches to adult learning is adults' preference for self-directed learning as they are used to independently direct different aspects of their lives (Van Tonder, 2015:58). Much has been researched and written about self-directed learning over the past fifty years (Brockett & Hiemstra, 1991, 2012; Candy, 1991; Houle, 1961; Knowles, 1975; Tough, 1967, 1971, 1978, as cited in Merriam & Bierema, 2014:63). An important consideration is whether research about self-directed learning is still justifiable and relevant or accepted as the norm in adult learning? Merriam and Bierema (2014:77) make an interesting observation about the forty-chapter *Handbook of Adult and Continuing Education (2010),* which is published once a decade and contains only ten mentions of self-directed learning with no specific chapter dedicated to it.

However, for the purpose of this study's focus on learning with technology, it is evident from Van Tonder (2015:108), that the availability of information through technology resulted into self-directed learning. According to Knowles *et al.* (2015:171), the adult student's ability to take control of his/her own learning activities encourages greater autonomy, independence and responsibility, often as a result of real-life experiences. In a rapidly developing, ever-changing environment, learning can no longer depend on formal preparatory education to support self-directed learning in adults, and tutors need to build their own knowledge and skills to foster self-directed learning in others (Merriam & Bierema, 2014:78).

2.3.2.4 Ubiquitous learning

Technology-enhanced environments intended to support adult learning are becoming ubiquitous in the formal, non-formal and informal educational context, and provide students and tutors alike with opportunities and challenges to improve teaching and learning (Merriam & Bierema, 2014:191; Heo, Jo, Lim, Lee & Suh, 2013:310). Mark Weiser (1993), cited in Heo *et al.* (2013:310), envisioned the world of ubiquitous computing more than twenty years ago, purporting unobtrusive and invisible technologies connected to wireless networks where information and education would be available beyond the classroom and away from the tutor.

Ubiquitous learning can be simply defined as learning any place, any time and in any way, which makes it a perfect fit for a modern world characterised by portable digital devices. To construct an understanding of developments in education today, a new vision of learning is needed with newer approaches to learning, exploring environments that are more engaging, more effective and more appropriate to real life and imaginable future conditions.

Rapid economic, social and digital changes question the equitability, significance and suitability of traditional pedagogy and educational practices (as cited in Van Tonder, 2015:63; Kalantzis & Cope, 2012:9; Merriam *et al.*, 2007:187). In a digital society, a one size fits all and good-for-all system is not well suited to the needs of a modern society (Kalantzis & Cope, 2012:9).

Modern learning methods should accommodate differences in knowledge, life experience, and motivation among students to cultivate deeper levels of knowledge for meaningful learning. Beetham (2013:269) importantly observes the awareness in both developed and developing

economies of the significance of positioning education as a driver of economic recovery, with a specific focus on a reform of learning design and on enhancing employability.

Due to globalisation and the virtually unlimited advancement of digital technology, it appears that more learning is taking place outside the traditional educational environments, and ubiquitous learning could provide students with the access and freedom to develop a range of options and choices especially for the adult student who must attempt to fit further education into a busy life (Beetham, 2013:270; Merriam *et al.*, 2007:17).

In view of the rapid changes worldwide, Kalantzis and Cope (Van Tonder, 2015:65) propose that traditional education should become 'less a site for learning about …, and more a set of experiences of learning in and for' in a society where the shape of the future is only imagined and not yet predicted. Stöter, Bullen, Zawacki-Richter and Von Prümmer (2014:423) describe ubiquitous learning environments as the possibilities for students to 'learn alongside classmates' from all over the world, enrolled in quality education programmes regardless of geographical location, with permission to appeal to the expertise of international experts and access to a curriculum more extensive than any one single institution could ever offer.

Merriam *et al*., as cited in Van Tonder (2015:65), emphasise a pressing focus of educators, employers and society on developing skills that are needed in a fast-changing and highly technical society in order to produce productive and informed individuals, as education systems have been relatively slow in responding to the transformation teaching and learning has undergone by virtue of technological developments. Some advantages of technology learning in ubiquitous learning environments as compared to traditional learning environments are indicated below (adapted from Kalantzis and Cope as cited in Van Tonder, 2015:65):

Table 2-2: Technology learning in ubiquitous learning environments versus traditional learning environments (Kalantzis & Cope as cited in Van Tonder, 2015:65)

UBIQUITOUS LEARNING ENVIRONMENT	TRADITIONAL LEARNING ENVIRONMENT
• **Ways of communicating** *Horizontal communication* occurs through students' interaction around each other's work, discussion forums, peer review groups, clearly outlined learning task schedules, feedback postings and more.	Generally *silent, individualised work*, some hands-up, one-student-at-a-time discussions. Active and busy is often a sign of disruptive behaviour.
Lateral learning occurs through peer-to-peer learning which is related and based on clearly outlined objectives, learning task schedules and structured feedback and revision. Tutor designed, supervised and managed projects allowing students to self-manage and work with others.	*Hierarchical learning relations*. Mostly tutor-managed and tutor-centred.
Higher order thinking. Students are involved in critical thinking, problem-solving, innovative and creative learning. Students receive structured feedback from personal involvement with learning matter.	*First order thinking*. Students memorise and absorb facts, repeat and apply rules.
Individualised learning. Having a scheduled project plan that indicates that not all students work on the same thing at the same time and the same pace.	*Homogenous learning*. Students work together and all on the same page. Shoot-for-the-middle-of-the-class tutoring, excluding the student on either end of the spectrum.
• **Ways of teaching** *Differentiated instruction*. Learning can be customised to accommodate different learning styles, needs, interests and identities.	*Generic learning*. One size fits all, good-for-all learning, regardless of student diversity.
Asynchronous learning. Learning any time, any place at own pace, following the scheduled project plan with peers available online.	*Institutionally isolated learning*. Learning is classroom bound according to a timetable.
• **Ways of assessing** *Formative assessment*. All assessments, group discussions, peer reviews and quizzes that contribute to the learning. Summative assessment. Can be as a final research project.	*Summative assessment*. Once-off testing, usually more a test of medium-term memory.
UBIQUITOUS LEARNING ENVIRONMENT	**TRADITIONAL LEARNING ENVIRONMENT**
• **Types of media** *Multi-modal learning*. Knowledge represented in a web-writing space using a mix of words, sound, images, videos and data.	*Read. Remember. Reproduce*. Strong emphasis on textbooks and handwritten exercises.

The portability of technological devices has undoubtedly distorted traditional classroom learning, and has the potential to promote meaningful learning (Heo *et al.*, 2013:310) as is noticeable from the above outline. It is further evident that the increasing variety of digitally available resources and changing information environment demands a rethinking of pedagogical approaches where adult students take control of their own learning through experience and collaboration, including a commitment to lifelong learning.

2.3.2.5 Lifelong learning

Lifelong learning is generally used in reference to adult students and their need to continue learning beyond formal education providing that they have access to learning and that learning opportunities are flexible (Stöter *et al.*, 2014:4216). A noticeable escalation in knowledge production globally, socially and technologically, including changing demographics, calls for transformation to address lifelong learning which is designed to promote economic, social and cultural development, often with the goal to compete globally (Walters as cited in Merriam & Bierema, 2014:20). The rapid changes and the increased number of adult students encourage the use of technology learning as a method to promote lifelong learning – changing careers, environments and success (Merriam & Bierema, 2014:196; Stöter *et al.*, 2014:421; South Africa. Council on Higher Education, 2014:5); when higher education fails to keep up with technological developments in learning, the result is inequality. The Council on Higher Education (2014:1) acknowledges the need to expand the current position and success of higher education in South Africa through more flexible learning opportunities that allows for lifelong learning and recognises the advantages of using technology to learn. However, the Council on Higher Education (2014:1) questions the quality of educational delivery and support and argues that deeper investigation is needed. Aspin, Evan, Chapman, and Bagnall (2012:1iii), supported by Dede (2012:2), argues that adult learning should extend beyond formal learning environments into lifelong, life-wide and life-deep learning, acknowledging the interrelationship between formal, non-formal and informal learning, to embracing the social, moral, ethical and religious aspects embodied in humans. Little did Dave (1976, as cited in Stöter *et al.*, 2014:4216) know how relevant his writings on lifelong learning then would be today when he suggested that 'lifelong learning is characterized by its *flexibility* and *diversity* in *content*, *learning tools* and *techniques*, and *time* of learning'. This is particularly true with

the rapid advances in technology to encourage lifelong learning, as it offers consistency of content delivery, promotes training in remote locations, eliminates travelling costs, enables tracking of student progress, manages standardised testing, fosters student flexibility in guiding and pacing learning, provides for diverse learning needs and advanced opportunities for practice through simulation, establishes greater retention, and lessens instruction time (Knowles *et al.*, 2015:278). The need for adults to digitally and globally share knowledge, new ideas and experiences suggests that virtual communities be more prominent with substantial participation in lifelong learning through self-learning and collaboration (Bates, 2015:136). Examining the learning processes in adult learning is discussed next.

2.4 LEARNING PROCESS

De Clercq, Galand and Frenay (2014:141) define learning processes as thinking activities adult students apply to process learning in order to achieve specific learning results and to direct learning experiences. Learning experiences that can be translated into measurable behaviour to include change in skills, conduct, knowledge levels and even attitudes draw on the behaviouristic process of learning and are found to be the reason for most adults' entry into learning (Olson & Hergenhahn, 2013:1).

Adults' discovery of becoming fully functioning individuals, acknowledging their unlimited potential for growth, developing their own skills, their personal involvement and their self-initiation of learning (mentally, physically and spiritually), draws on the humanistic learning process for meaningful learning (Knowles *et al*., 2015:15; Merriam & Bierema, 2014:30). This perspective is further strengthened as adult students are in control of their own learning, and their behaviour is a consequence of their choices.

Contrary to the cognitive learning process where learning is seen as a mental process that uses prior knowledge to process and interpret new information (Merriam & Bierema, 2014:33), the constructivist learning process emphasises the role of previous academic and life experiences in adding meaning to current learning experiences through social collaboration and engagement in the learning process (Merriam & Bierema, 2014:36).

Online collaboration, seen as 21st century learning, has changed the face and influenced the processes of adult learning. The distinctive qualities of online learning include text, visual aspects, and sound, and enables students with different learning preferences to meaningfully

engage in their learning. This, in turn, forces students to re-engage in learning to develop new skills and assume new roles (Farmer, as cited in Van Tonder, 2015:71) to ensure deeper and more meaningful learning.

2.5 MEANINGFUL LEARNING

The 'central process of adult development' (Mezirow, as cited in Merriam & Bierema, 2014:31) is how students make sense of information they are presented with. Meaningful learning occurs when prior knowledge and experiences are used to connect new knowledge and experiences to guide future actions. For adult students, the act of learning is largely initiated through their own experiences and explorations to create meaning. However, tutors play a vital role in directing students' attention to important concepts, highlight relationships, and link new material to existing material (Schunk, 2012:218).

Meaningfulness, according to Schunk (2012:218), depends on personal variables and not all students learn the same way. In Mezirow's theory of transformative learning (Merriam & Bierema, 2014:86), meaningful learning is seen as a cognitive process that requires personal involvement, reasoning, thinking, reflection, questioning, and evaluation of one's own views and assumptions. In addition, Mezirow postulates (Merriam & Bierema, 2014:94-95) that, in facilitating adult learning, students should be assisted to understand their full potential, become more progressive, socially responsible, and self-directed; which in turn leads to individual growth and development.

As much adult learning happens in social settings, meaningful learning does not only rely on individual growth and development, but is obtained through social interaction with others. Vygotsky, as cited in Harasim (2012:90), suggests higher order skills and knowledge construction happens through social collaboration, which leads to meaningful learning (Harasim, 2012:92). This is where the tutor establishes knowledge building through a process of group discussions on a specific subject, guiding conversations in a democratic and engaging way.

Knowledge is created through 'learning by doing' (Harasim, 2012:90) where students interact, confront new ideas, and engage in relevant programme matter; the role of the tutor is to facilitate learning activities. When learning is provided in a diverse and personalised learning environment where the student can actively engage in content that includes rich learning

experiences such as collaborative learning, student-led review sessions, analysis or reactions to discussions, quizzes, videos, analysis of case studies and more, then meaningful learning is realised (Parsons & Beauchamp as cited in Van Tonder, 2015:75). Most important is the notion that making meaning is emphasised both as an individually cognitive, and socially interactive activity. However, making meaning can be seen as personal and individual and what is meaningful for one is not necessarily meaningful for another.

Acknowledging and understanding individual differences assist tutors to customise adult learning experiences in a number of ways. The emergence of a global movement calls for a new model of learning in the 21st century, with a focus on motivation of learning, specific competencies and skills needed for the 21st century, and a pedagogy that stimulates those capabilities. It is further evident that online collaborative learning prompts other positive outcomes such as higher-level reasoning, transformative learning, motivation to succeed, stronger social and cognitive development, greater appreciation for diversity, development of social skills, and improvement in the quality of learning environments (Scot, 2015:8). Learning and motivation follow in the next section.

2.6 LEARNING AND MOTIVATION

Much has been said about adult learning and motivation (Knowles *et al.*, 2015:183; Merriam & Bierema, Olson & Hergenhahn, 2013:384; 2014:54; Schunk, 2012:58). In Knowles' andragogical model of adult learning (Knowles *et al.*, 2015:183), adults have many different needs in terms of what motivates them to learn and the learning environments for adults vary between multiple and diverse settings. Wlodowski, as cited in Knowles (2015:183) and supported by Merriam and Bierema (2014:54) maintain that adults are goal and results-oriented, problem solvers, self-directed, have a set of life experiences and skills, need to be engaged in their learning activities, have a deeper understanding of information and hold positions of responsibility in different aspects of their lives. With this in mind, the author suggests four factors that motivate adult learning:

- Adults want to be successful and want to know why they are learning something.
- Adults want to choose how they want to learn.
- Adults want to learn something that has personal value to them.
- Adults want to experience learning that is enjoyable.

Wlodowski (as cited in Knowles, 2015:184; Merriam & Bierema, 2014:156) described the significant role of tutors in adult learning and, in this light, suggested a model of characteristics and skills for tutors as motivators of adult students:

- Tutors should have expertise and have knowledge which benefit adults in the real world.
- Tutors should display empathy and a realistic understanding of adults' needs and expectations and be willing and able to adapt.
- Tutors should have the ability to show enthusiasm, express commitment, be organised and be clearly understood.

However, Sogunro's (2015:22) research proposes eight of the factors most motivating for successful adult learning in higher education (figure 2.1): the quality of delivery; the quality of programme content; learning significance and practicality; collaboration and effective administration practices; continuous assessment and prompt feedback; self-directed learning; favourable learning environment; and effective student support services. All these factors are integrated into online blended learning environments and are discussed next.

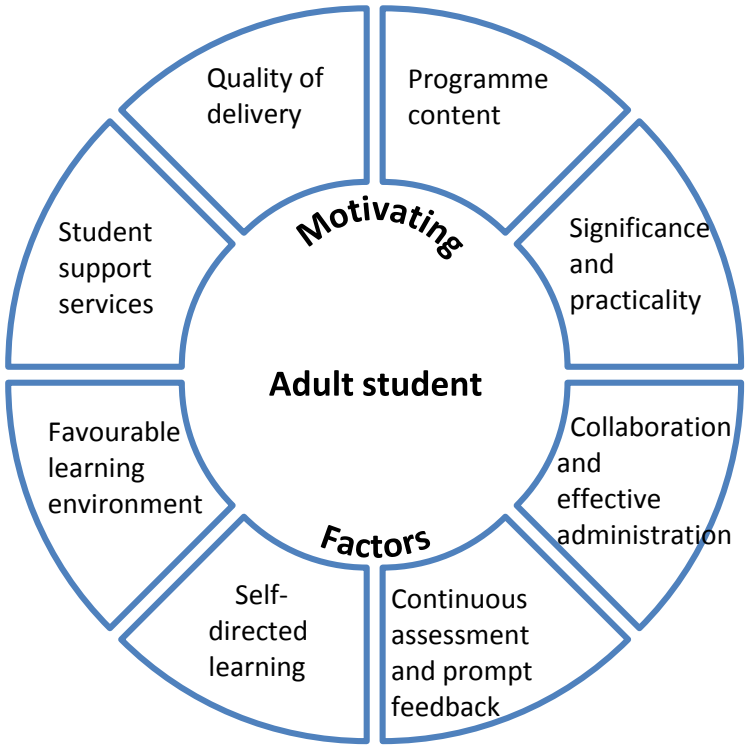

Figure 2-1: Motivating factors for adult students in higher education (Sogunro, 2015:26)

In Sogunro's (2015) study on motivating factors for adult students, 203 participants identified five top motivating factors affecting their learning success. The quality of programme delivery was identified as the most important motivator for adult learning. Second was the quality of programme content; third was the significance and practicality of learning; fourth was the importance of collaboration and effective administration; and continuous assessment and prompt suitable feedback was fifth.

Notable is that 95% of the participants claimed the quality of instruction and delivery as the most important motivating factor for their learning success (Sogunro, 2015:29). Dewey (as cited in Knowles *et al.*, 2015:132) confirmed that crucial to learning success is the tutors' knowledge on subject matter and delivery. In turn, Van Tonder (2015:105) noted that adult students making use of online blended learning expressed the need for recent and relevant learning materials and tutors who are up to date with technology and have the appropriate knowledge at their fingertips.

The structuring of programme content – including goals and objectives, topic outlines and summaries, evaluation criteria, and tutors' contact details were observed as important motivating factors (Sogunro, 2015:29). According to the constructivist learning theory, student-centred learning with an active student that enquires, searches, self-activates, and constructs his/her own development along with a setting in which clear goals are set, expectations are clear, the system is transparent, and active enquiry is met with honest and objective feedback, are essential elements for a positive and motivational learning environment (Knowles *et al.*, 2015:55).

A vital aspect of the learning success is ensuring effective accessibility of learning resources – both material and human, especially in terms of technology (Knowles *et al.*, 2015:54). Van Tonder (2015:118) substantiates this with the finding that students' interaction with online course materials showed resources such as well-indexed and searchable online textbooks, the availability of visual materials such as video clips and presentations, online quizzes with immediate results and feedback and the availability of an online library as strong motivating factors. In online blended learning environments it was found that the need for customisation of learning content according to students' capabilities, personalities, expectations and learning styles had an impact on learning outcomes and motivation. However, when using technology

to learn, programme content and design is influenced by institutional policies and procedures (Van Tonder, 2015:134).

Adults, being paying customers and often responsible for their own study fees, expect service delivery and are motivated when their learning experience is relevant and applicable to their learning needs and real-world situations (Sogunro, 2015:29; Knowles *et al.,* 2015:46; Merriam & Bierema, 2014:55). Van Tonder (2015:132) found that adult students express their desire to learn in new ways, to evaluate their own progress and to be able to transfer knowledge into real life situations for immediate application. This viewpoint, associated with the constructivist learning theory of creating meaning from experience, supports learning that is internally motivated, and suggest that tutors enhance intrinsic motivation and provide students with as many authentic and problem-solving activities as possible while students attempt to arrange and rearrange thoughts and experiences to their real-life situations. This is supported by and based on Dewey's key concept of experience. His concepts of teaching and learning, as cited in Knowles (2015:132), postulates the role of the tutor as 'external boss or dictator' with the role as 'leader of group activities'. A few generations ago, many of Dewey's ideas were not acknowledged; they were considered distorted and exaggerated. However, in more recent times Dewey's ideas appear innovative and conducive to 21st century teaching and learning (Knowles *et al.,* 2015:133).

Adult teaching and learning is most effective through collaboration and discussion with others where learning is collective and shared (Sogunro, 2015:30). As noted in Van Tonder (2015:118), peer support and collaboration in online blended learning environments proved to be highly effective when adults socially engage to exchange information, encourage one another, and learn from one another. According to Paciotti (2013:109), these environments have higher intrinsic motivational outcomes where students perform better with long-lasting impact outside the educational environment (Paciotti, 2013:109).

Sogunro (2015:30) postulates that continuing assessments and prompt feedback have a strong motivational influence on successful learning. In online blended learning environments, students and tutors have a built-in message and communication function that enables prompt feedback from tutors. Students can contact their tutors via e-mail, access course information and resource material through an electronic platform, have online assessments, and receive

results via an institutional platform (Beetham & Sharpe, 2013:6). The use of online blended learning necessitates continuous student assessment to ensure quality learning outcomes and student engagement (Van Tonder, 2015:8). Tutor availability and assistance are regarded as highly motivational with regard to feedback, visibility and student support if feedback is not generic and clinical (Van Tonder, 2015:119). Wlodkowski, as cited in Merriam and Bierema (2014:158), supports prompt feedback throughout the learning process, which is realistic and authentic in terms of adults' real-life contexts.

It is generally accepted that self-directed students are self-starters and autonomous students (Sogunro, 2015:31). They become more resourceful and self-sufficient when their learning is supported by technology (Van Tonder, 2015:108) and learning that promotes self-improvement is highly recommended and likely to increase motivation to engage in learning activities (Knowles *et al.*, 2015:55). In online blended learning where learning is flexible and adults can decide when, where and how they want to learn, adjusting their learning around work, home and other responsibilities allows them to be self-regulated and self-paced (Brookfield, 2013:91-92). In fostering self-directed learning in online blended learning environments, one role of the tutor is to support the development of confidence in adult students to be independent students so as the physical presence of a tutor or institution is not always necessary.

Social inclusion, interconnectedness, and a sense of belonging are seen as motivating factors that contribute to favourable learning environments where students are respected and able to express themselves without fear, threat or humiliation (Van Tonder, 2015:18). Through online social collaboration, where students belong to a group, they work more productively and higher levels of motivation are evident. Van Tonder (2015:113) found that students felt more comfortable to interact in the online classroom as they do not encounter peer pressure, criticism, fear or humiliation. Online learning environments reflect the need for respect and trust of participants towards one another and the opportunity to freely participate (Van Tonder, 2015:76). This is usually determined by institutional guidelines and protocols or guidelines set by tutors for different programmes (Van Tonder, 2015:44).

The availability and effectiveness of academic and other student support services are seen as critical to sustaining academic success and motivation (Sogunro, 2015:32) which is integrated in the online blended learning environment (Van Tonder, 2015:128). Tutors fulfil roles as

mentors, cheerleaders, assist with internet connection problems, login and password issues, reminders and updates on assignments, outstanding balances and more (Van Tonder, 2015:120). The availability and advantage of having online student support, and administrative and technical support highlights the advancement of 21st century teaching and learning. In the next section learning with technology using blended learning will be discussed.

2.7 BLENDED LEARNING

With the availability of emerging technologies, blended learning has transpired as an option that offers enormous potential in adult learning environments. Blended learning has been described in a variety of ways using a variety of terminologies that refer to e-learning, hybrid, flipped, mixed-modes and other learning approaches. For the purposes of this study, blended learning will be used as the preferred term. A blended learning approach involves merging traditional face-to-face instruction with online asynchronous learning, while still maintaining quality student-tutor interaction (Van Tonder, 2015:6; Kyei-Blankson & Ntuli, 2014: xx). Due to the potential of blended learning, the popularity thereof can mainly be attributed to the tutors' ability to combine the strengths of both traditional and online delivery modes to enhance the opportunity for interaction with and reflection on learning content before, during and after instruction (Stacey & Gerbic as cited in Kyei-Blankson & Ntuli, 2014: xxi).

2.7.1 Blended learning in higher education

The combinations of various teaching and learning approaches embedded in blended learning provide tutors with the opportunity to prepare, equip and empower 21st century students for the 21st century workplace (Tandoh *et al.*, 2014:18). The combination of tutor support and self-directed learning indicates that blended learning is an effective approach for skills and knowledge development (Tandoh *et al.,* 2014:22). It is further evident that blended learning environments allow more flexibility for the unemployed student to search for jobs, schedule interviews, and have part-time earning opportunities (Evans, 2014:39). Swail, as cited in Tandoh *et al.* (2014:20) remarks that a new variation of learning for today's adult student has emerged, one in which the 'rules are changing, and there is increased pressure on higher education to evolve, adapt, or desist'. Moreover, when implemented correctly, blended learning allows for transparent student-tutor interactions, which reflect the need for respect and trust adult students have towards one another when they participate in online learning environments

(Van Tonder, 2015:76). It is further evident that learning with technology has opened distinctive areas of learning never before explored.

2.7.1.1 Benefits, Challenges and Implementation

Combining face-to-face and online activities provides pedagogical richness, instant access to knowledge, social interaction and cost effectiveness, which are some of the benefits when using blended learning approaches (Graham, as cited in Tandoh *et al.*, 2014:21). It is further evident that blended learning is flexible, encourages active learning, is student centred, is globally connected and not geographically bound, can interact with individuals of diverse cultures without knowledge of individuals' backgrounds, race, age and gender, and fosters student-student interaction (Wang & Storey, 2014:251).

Compared with pure online learning, blended learning offers the human touch and social presence students are used to in traditional face-to-face delivery, while benefiting from the flexibility of learning anywhere and any time, and continues to gain respect in adult higher education as 'the single-greatest unrecognized trend in higher education today' (Graham, Allen & Ure as cited in Tandoh *et al.*, 2014:21). Students who experience difficulties with understanding new or demanding information have the benefit of repeated engagement with content in their own time with the benefit of online collaboration to clarify concepts. Another benefit for both tutor and student is that students can engage in learning materials available on the learning platform and come to class prepared. They can build on their own knowledge by watching videos, listening to lectures, have an idea of content to be covered in class and in some cases have already solved problems and answered questions (Tandoh *et al.*, 2014:22).

Some challenges that might pose problems in blended learning environments, as stated by Van Tonder (2015:121-125) and supported by Tandoh *et al.* (2014:22-23), include inadequate technological equipment and network strength, the cost of airtime and data, students residing in remote areas where they are unable to upload assignments, little and inadequate support from tutors and administration, online distractions like Facebook and other social media, little or no online communication protocol, the fear of using technology for learning, lack of computer skills or online experience, the perspective that learning with technology leads to an inferior qualification compared to face-to-face instruction, learning skills that are not accommodated,

and a hostile, rigid mindset of policymakers and institutional management toward blended learning (Van Tonder, 2015:21; Wang & Storey, 2014:252).

According to Tandoh *et al.* (2014:22-24), thorough planning and research are imperative for effective implementation of blended learning environments and involves more than teaching and learning issues. Important considerations include aspects of management involvement, instructional methods and infrastructure, software and hardware requirements, student and tutor backgrounds and computer competencies. Vital factors for success are tutor support during implementation of blended learning, technical support for both students and tutors, and course design and development, which are essential to ensure sustainability. Added to this are supportive student advisors, technology and technical support, administrative support, and tutors that are confident in using technological skills and integrate those skills in their pedagogy.

2.7.1.2 Blending face-to-face and technology learning

Blended learning is often considered as 'the best of both worlds' (Graham, as cited in Tandoh *et al.*, 2014:21). In order to effectively blend face-to-face delivery with technology, the differences between face-to-face and online programme delivery must be closely considered and the different teaching and learning strategies incorporated. Blending face-to-face and online learning does not involve replicating a face-to-face class and putting it on a computer. According to Grincewicz (2014:43) and supported by Naroozi and Haghi (2013:1), blending a programme includes conversion of learning material, modification of teaching concepts, accessibility processes, assessments, flexibility, interactivity, learning and technical support, and structuring of learning activities to increase quality and meaningful learning (Noroozi & Haghi, 2013:1). Online activities should be designed to intentionally encourage student-student and student-tutor interaction, emphasising the social nature of interaction and communication through written contact. For meaningful learning and constructive alignment of the curriculum, instructional approaches, assessments and evaluations must complement each other (Grincewicz, 2014:43).

2.7.2 Foundation for effective teaching and learning in blended environments

According to Wang and Storey (2014:257), the key foundation for innovation in adult learning includes a paradigm shift for both tutor and student to consider technology use through blended

learning approaches as an alternative mode of delivery, to acknowledge the changing skills demanded for a 21st century workforce, and to acknowledge the changing role of tutors in 21st century learning.

2.7.2.1 Evidence of learning progress

It is evident that higher education was shaped in response to the industrial society which, along with workers, needed a community of highly educated professionals (Scepanovic, Guerra & Lübcke, 2014:367). The role of these professionals was to serve as experts in their subject fields and to incorporate only an elite few of the workforce. However, the knowledge society today needs a workforce that is able to find rapid solutions; with the right skills to apply new knowledge to new situations, as access to knowledge is no longer reserved for a privileged few, but is freely available and accessible through technological applications. The fast evolution and expansion of digital technologies confirmed that higher education institutions are no longer the sole owners and distributers of knowledge (Scepanovic *et al.,* 2014:367). In the online classrooms where students socialise and collaborate when interacting through experimenting, reading, reflecting, discussing, creating, and peer reviewing, it is evident that teaching spaces have become learning spaces and the use of digital technologies have become more natural, which is indicative of progress in 21st century learning (Scepanovic *et al.,* 2014:373).

2.7.2.2 Evidence of teaching progress

In the literature, 'Teaching as a design science' (Laurillard, as cited in Scepanovic *et al.,* 2014:373) proposes that teaching with digital technologies has stretched the boundaries of teaching beyond the notion of 'teaching as an art, a product of pure inspiration' (Scepanovic *et al.,* 2014:373) and academics as exclusive initiators of knowledge. Though technology in teaching has evolved in recent years, more is required to transform the teaching profession, which is directed and guided by external bodies of influence. Tutors in higher education have to attempt to understand their new employment circumstances and what teaching in the digital age means; they may also have to defend their knowledge, which could be questioned by online students connected to different perspectives, and the question for tutors should be one of 'what is my role in the learning process?' (Scepanovic *et al.,* 2014:373). Laurillard (as cited in Scepanovic *et al.,* 2014:373) remarked that, 'education could easily be side-tracked into the inappropriate uses of technology if we are not clear what we want from it'. The importance of

building a vision of acceptable pedagogical models when using digital technologies in adult learning is not only a responsibility of government and higher education institutions, but should include tutor and student participation.

2.7.2.3 Transportation of adult learning

From literature and research studies a shift has taken place in higher education: from being mainly regulated and administered by individualised establishments to a digitally enabled science of individualised learning, as stated by Mazoué (2013:30):

> *If this transition signals the initial stages of the deconstruction and reinvention of the university, then we are witnessing the educational equivalent of a Copernican revolution: a paradigm change from the previous millennium's orthodoxy of place-centric institution towards a scientifically grounded network of technology-enabled learning.*

Mazoué (2013:30) supported Scepanovic *et al.* (2014:374) in proposing a post-industrial model that defines adult learning as a process-centred rather than a place-centred activity using technology in ways where learning through collaboration would not only serve the educational needs of the adult student, but would be instrumental in fulfilling lifelong and life-wide needs, as well as providing flexible options to upgrade and expand their knowledge, skills, and employment prospects. The need to create a comfortable environment for discussion and for provision of individual learning styles was also rated highest by students (Akyol & Garrison, 2010:63). How adult students prefer to receive and tutors prefer to facilitate information depends on adults' learning styles and tutors' teaching styles, which is discussed next.

2.8 TEACHING AND LEARNING STYLES

Teaching styles and learning styles refer to a broad range of preferred methods and environments for teaching and learning. Smedley (2012:97), supported by Knowles *et al.* (2015:188) and Killen (2013:96), acknowledges the significant differences among students in the learning process and how different students acquire the same knowledge in different ways, depending on their present knowledge base. This notion, according to Olson and Hergenhahn (2013:412), was exactly what fuelled another movement in teaching and learning – learning styles. Much debate has been played out on this terrain. Pashler, McDaniel, Rohrer and Bjork,

as cited in Olson and Hergenhahn (2013:412), noted at least seventy-one different learning style assessment tools – that is, seventy one different theories of learning – have been documented in the last several decades. However, according to Beetham and Sharpe (2013:38), learning style research has informed effective teaching strategies in many ways, although Pashler *et al*. (2009:107) and Schunk (2012:481) maintain that learning style preference and accommodating students' learning styles do not guarantee either effective instruction or academic achievement. Learning style and cognitive style are used interchangeably (Knowles *et al.,* 2015:195; Beetham & Sharpe, 2013:38) and, for the purpose of this study, the researcher will refer to learning styles, which according to Knowles *et al.* (2015:195) embrace more than cognitive functioning and include the types of learning environments that accommodate individual differences in learning. In addition to the traditional learning styles that include cognitive, affective and physiological dimensions, James and Galbraith (as cited in Knowles *et al*., 2015:195) expand these dimensions to include print, auditory, interactive, visual, sense of touch, kinaesthetic elements, and smell.

Learning styles and their interrelationships with teaching styles, learning experiences, academic achievement, technology use, and educational value is an important aspect in adult learning and Graf, Kinshuk, Zhang, Maguire and Shtern (2012:3) state that, when tutors are aware of students' learning styles and use that information, it is beneficial to both student and tutor. Tutors are mostly intuitively aware of different learning styles among the adult students they work with, and by considering and acknowledging the various differences in learning styles of adult students, tutors are often able to adjust a learning situation to reach more students effectively. Tutors are also able to support students in understanding why learning might sometimes seem complex, and assist them in establishing a basis for developing their weaknesses (Knowles *et al*., 2015:196).

Where tutors' teaching styles correspond and complement students' preferred learning styles, students apply their learning more effectively, retain information for longer, and have a positive learning experience (Beetham & Sharpe, 2013:38). Being aware of these tendencies, tutors should design learning experiences to accommodate individual learning styles; adapting learning material to students' individual learning styles have shown positive results, in comparison to where learning preferences are not accommodated. When students in the latter

situation are faced with complex or inconsistent learning content, they experience student overload, which in turn leads to a negative learning experience (Sturges, 2011:238).

According to Beetham and Sharpe (2013:36), as supported by Knowles *et al.* (2015:198), adult students display different preferences, aspirations and resources during learning activities due to their cognitive abilities, personalities, cultural attitudes and experiences; where their individual learning preferences are disregarded, students might be less effective in a learning situation. Understanding individual differences helps tutors to customise adult learning experiences in different ways. This way there can be no doubt that students can benefit from their own learning processes, instruction can improve, and deeper learning may occur when differences are recognised and supported (Beetham & Sharpe, 2013:38; Schunk, 2012:482).

Despite there being no unifying theory or generally accepted approach to learning style research and practice (Knowles *et al.*, 2015:198), it appears the acknowledgement of learning styles in adult learning has proved valuable in assisting both students and tutors in the learning environment (Van Tonder, 2015:113). It is also significant to acknowledge that one learning style does not take preference over another, but that individuals vary in their approaches, strategies and preferences during learning activities (Van Tonder, 2015:113; Knowles *et al.*, 2015:199; Killen, 2013:96).

2.8.1 Teaching and learning style preferences

Individual student differences, cognitive styles, personality, prior learning experiences, and the preferences adults have when learning, as well as various learning style instruments, have received much attention. Arora, Leseane and Raisinghani (2013:79) are supported by Pashler *et al.* (2009:105), in advocating personal preferences of individual students to teaching and learning. Cognitive styles, according to Messick (as cited in Knowles *et al.*, 2015:189) and Messick, as cited in Schunk (2012:478), are characteristics and personality traits present in the student and reflect the ways in which the student processes information to make sense of their world through visual, verbal and tactile information (Knowles *et al.*, 2015:195).

Student personality depicts unique characteristics and serves as an indicator of what secures student attention. According to Collins (2011:157), introverts focussing on the self, gain energy from within and are critical and reflective in their learning. Extroverts focus on the external world, learn from organised, planned experiences and draw energy from interacting with

others. In recognising that individuals have their own learning styles, Merriam and Bierema (2014:109) acknowledge the relationship between learning style preferences and adults' previous life experiences.

Kolb's experiential learning cycle (Merriam & Bierema, 2014:108) is the most frequently used instrument to assess learning styles in adult learning and draws strongly on transformative learning, identified as an adult learning theory of how adults make sense of their experiences. The Myers-Briggs Type Indicator (Schunk, 2012:478) purports desired techniques individuals apply to seek learning environments and related elements in them, which is mostly used to assess learning styles based on students' auditory, visual and kinaesthetic processing preferences. This includes four dimensions, namely: extraversion-introversion; intuition-sensing; thinking-feeling; and judging-perceiving. The Felder-Silverman learning style (Arora *et al.,* 2013:80; Graf *et al.,* 2012:5) names five dimensions that determine how information is perceived: sensing-intuitive, visual-verbal, active-reflective, sequential-global, and intuitive-deductive.

Arora *et al.* (2013:80) and Graf *et al.* (2012:5) state that sensing students prefer to receive information through their senses; they learn from visible and tangible materials like models and samples; they have a tendency to be more practically inclined and are cautious where details are included. Intuitive students prefer abstract matter and favour information that arises through memory, reflection and imagination. They are found to be more innovative and attracted to challenges. Visual students remember and learn best when information is presented through written information, notes, pictures, graphs, diagrams, and demonstrations, and prefer taking notes and writing down key points. They best follow written instructions as opposed to oral ones. Verbal students create more out of spoken explanations such as listening to a lecturer or audio text and prefer to have information read to them rather than having written information and instruction. Active students prefer learning through trial and error and through collaboration and discussion with others, whereas reflective students prefer learning by thinking through matters and by working alone. Sequential students learn best when information is presented in linear and ordinary steps and prefer to be directed and navigated through the learning process, whereas global students are holistic students, learning in large leaps, and prefer more freedom in their learning process. It is evident that learning according to a preferred style enables students to feel more comfortable and learn more effectively.

Following a student-centred approach, tutors should be sensitive in their teaching style to accommodate different learning styles. There are various methods of categorising teaching styles. Dressel and Marcus, as cited in Arora *et al.* (2013:81), group teaching styles in three categories which is discipline-centred, teacher-centred and student-centred. The Flanders Interaction System of teaching styles inventories are used to categorise tutors' verbal interaction with students and the CORD's teaching style, which will be discussed, was designed to study tutors' influence on students' learning goals.

The Centre for Occupational Research and Development (CORD) as cited in Arora *et al.* (2013:81) uses four scales to measure the influence of teaching styles on learning goals, and the first is 'Rote-Understanding' teaching styles. 'Rote' teaching understands that memorising and remembering concepts, ideas, and theories without much understanding required. 'Understanding' learning teaching style agrees with understanding concepts, theories and ideas through practical investigation and exploration. Secondly, is the 'Applied-Abstract' teaching style. The 'Abstract' concept representation teaching style focuses on studying ideas, theories and subjective viewpoints, while 'Applied' concept representation deals with practical application of the abstract ideas and theories. One tutor may highly investigate theories where another tutor may utilise the practicality of theories through innovation and exploration. Cognitive processing discussed as a third teaching style dimension focuses on 'Symbolic-Enactive' teaching style, where 'Symbolic' cognitive processing is seen as understanding concepts through language approach and 'Enactive' cognitive processing understands concepts through an action approach. Thus, one tutor may explore deeply into subjective explanations of concepts and another tutor may utilise the practicality of theories through innovation and investigation. Fourthly, interaction teaching style dimension represents 'Individual-Cooperative' teaching styles. 'Individual' teaching style focuses on individual development and excludes group work, while 'Cooperative' teaching style dimension focuses on the collaboration and interaction of groups working together discussing theories, ideas and concepts.

Arora *et al.* (2013:83), found in their study of 161 adult students that, according to the CORD's teaching style dimensions, students preferred 'Understanding' teaching style to 'Rote' teaching style. Students were found to be more 'Applied' than 'Abstract' in their choice of teaching style and preferred teaching to be more 'Enactive' than 'Symbolic'. It is further evident that

adult students prefer a 'Cooperative' teaching style where they are included in discussions and collaborate with others over 'Individual' interaction teaching style which is supported in Van Tonder (2015:114), who states that students preferred a learning style that allows for active thinking, independent learning, and making their own choices, which is meaningful for each individual student. Learning with technology showed a positive correlation between learning style, knowledge retention and learning experiences where active learning strategies were implemented and students took control of their own learning. It is furthermore evident that different learning styles can simultaneously be accommodated in the technology classroom (Van Tonder, 2015:114).

2.8.2 Learning, teaching style, and technology

With the introduction of technology, learning has moved beyond a physical learning environment and according to the top ten e-learning statistics for 2014, a total of 7 million adult students in 2013 registered to study via online asynchronous learning (Vatsala & Pissay, 2014:115). Much of the growth curve of online learning growth, with government support in future, will come from India, China and Australia, (Vatsala & Pissay, 2014:115).

The convenience of learning anywhere, any way and any time using the internet, is a strong indication that technology learning is here to stay. From a learning styles point of view, learning with technology includes an understanding that learning styles and teaching styles should correspond to ensure the highest levels of learning outcomes. When leaners' preferred method of learning and tutors' preferred teaching style are not aligned, a mismatch in the results may lean towards poor learning outcomes (Baguley, Danaher, Davies, De George-Walker, Jones, Matthews, Midgley & Arden, 2014:100; Vatsala & Pissay, 2014:118).

Students enter the classroom environment with unique and diverse backgrounds, experiences, and personal characteristics, and tutors can contribute to making a difference by improving learning success. In 21st century learning, most students are not only comfortable with using technology for learning, they also expect their tutors to use technology in their delivery. For tutors to integrate technology successfully, they must remain up to date with available technological options and software programs (Van Tonder, 2015:105; Grgurovic as cited in Tandoh, Flis & Blankson, 2014:22).

Much value is often placed on the use of technology in the classroom and not necessarily on its overall improvement of student learning. Full technology integration is still relatively rare for tutors within the educational structure itself and there are often no methodologically driven goals among tutors other than the use of technology (Gandolfo, as cited in Lambert, Erickson, Alhramelah, Rhoton, Lindbeck & Sammons, 2014:6). However, Gandolfo (as cited in Lambert *et al.,* 2014:6) and supported by Van Tonder (2015:109) acknowledge that tutors often do not appreciate the educational potential of technology until they become familiar with it through practical applications and experiences.

Research studies, as discussed in Collins (2011:158-161), indicate that as certain learning styles prefer certain approaches in face-to-face delivery, the same is evident for learning style preference in online learning. Therefore, tutors and curriculum designers have to create learning environments that include a variety of learning styles in their delivery, as is evident in Kolb (Van Tonder, 2015:88; Kyei-Blankson & Ntuli, 2014: xxii; as cited in Collins, 2011:161). One of the advantages when teaching with technology is the benefit of students' online learning platforms which are often used to monitor information on students' behaviour, their learning style preference, cognitive ability, whether activities such as quizzes, discussion forums, graphs, exercises and other activities are utilised and which activities are experienced as complicated (Van Tonder, 2015:14; Starkey, 2012:99). This is seen as a benefit which is not always immediately available in face-to-face delivery.

2.9 CONCLUSION

With no prospects of change in the near future, the digital age has influenced adult teaching and learning in remarkable ways which cannot be ignored in building a new vision for higher education. Globalisation, technology and the knowledge economy, with specific reference to the high unemployment rate and specific demands for 21st century skills, has influenced how adult students prefer to participate and invest their time to learn. Traditional higher education and learning is under pressure to meet student and employment demands. Investigating different adult learning theories provides an explanation of how adult learning happens and how tutors can reflect and improve on their own teaching practices. Online collaboration using blended learning is proposed as the learning theory for the 21st century, emphasising knowledge building and technology use as a process to reform and rethink adult teaching and learning in the digital age. Through social collaboration with others, online blended learning has the

potential for students to construct meaningful relations, be motivated to succeed, and to transform their learning experiences into effective professional development and lifelong learning commitments. Acknowledging adult learning is not a one-size-fits-all approach; the combination of various teaching and learning styles embedded in the blended learning environment, provide tutors with opportunities to prepare and equip 21st century students for the 21st century workplace.

CHAPTER THREE: LITERATURE REVIEW: TECHNOLOGY INTEGRATION TOWARDS A KNOWLEDGE WORKFORCE

'When education fails to keep pace with technology, the result is inequality. Without the skills to stay useful as innovations arrive, workers suffer – and if enough of them fall behind, society starts to fall apart' (The Economist, 2017:1).

3.1 INTRODUCTION

Employment patterns have changed significantly over the last two decades. The demands of the 21st century require a shift towards a better skilled and educated workforce, which calls for a redefinition of the role and purpose of learning (Bell, Warwick & Galbraith, 2012:3). Compared to developed countries, African countries are not equipped for the transition to a knowledge-driven economy (Peyper, 2017:1) and accommodating a knowledge-based workforce. This was clear from the Africa Competitiveness Report that was released at the World Economic Forum on Africa, which was held in Durban, South Africa, from 3-5 May 2017. The substantial use of technology-based resources, the flow of knowledge that is created and shared between individuals through collaboration and partnerships to learn from each other, and continuous learning as a process to assist in creating a knowledge-based workforce, are the core characteristics of a knowledge-driven economy (Tarique, 2014:38).

Referring to the use of information and communication technologies (ICTs), South Africa scored 58th place out of 138 African economies, ahead of Mauritius (72nd), Botswana (83rd), Namibia (96th) and Kenya (105th). However, despite some technological advances and progress in South Africa, the youth unemployment rate in South Africa, compared to other African countries like Botswana, is disturbing. Botswana's youth unemployment rate of 33.9% (the World Bank, as cited in Pheko & Molefhe, 2016:2) compared to South Africa's chronic 48% (Graham & De Lannoy, 2017:1) poses particular challenges to a digital revolution in the higher education sector. Compared with advanced economies, the gap in the use of information technologies has increased, causing a delay in South Africa in terms of strengthening a skilled workforce (Peyper, 2017:1). If South Africa means to participate in a digital economy, it must

adopt international information and technology standards to compete in providing and receiving the full benefits of technological integration.

Peyper (2017:1), as supported by Graham and De Lannoy (2017:1), further notes the disconnect between the acquired skills and the expected skills of graduates in the South African job market. This highlights the fact that graduates in South Africa generally do not meet employer expectations and that the quality of higher education, according to employers, has dropped over the past ten years. However, compared to Mauritius, the Africa Competitiveness Report (Peyper, 2017:1) states that employer expectations have improved steadily and 'Mauritius has managed to improve its talent pool past South Africa, this despite hosting six of the top 15 African universities, South Africa's skills level is not improving sufficiently'. Higher education institutions in South Africa are under increasing pressure to close the gap and to produce employable graduates to contribute to a knowledge-driven economy (Chetty, 2012:5), as it is evident that the South African labour market favours highly skilled employees (Graham & De Lannoy, 2017:1).

Another mismatch between qualifications and required skills was highlighted and discussed at the World Economic Forum on Africa and IBM Country Manager for South Africa, Hamilton Ratshefola, as cited in Peyper (2017:1), voiced the concern that higher education curricula are not consistent with what is required in the world of work, and he stated that 'we require a digitally skilled graduate'. Tandoh, Flis and Blankson (2014:18) postulate that learning with technology, and blended learning in particular, is an effective approach to drive skills development by combining a variety of teaching and learning experiences in a mix of learning situations. It is therefore imperative that curricula should provide for authentic learning, having employability skills embedded into curricula, learning outcomes and assessments, and where employability development commences at the beginning of the study journey (Gray & Chatterton, 2016:11). In support, Wilson (2012:40) suggests that the practice of separating employability development from the formal curricula should be reconsidered, as institutions do not prioritize skills development in learning success. In creating value for all stakeholders, institutions should therefore reflect on the strategies used to ensure students have the opportunity to develop employability skills through their formal curricula, placing a high demand on higher education management to meet the demands of rapidly changing learning environments in the 21st century. Management of quality, innovation and change is discussed next.

3.2 MANAGEMENT OF QUALITY, INNOVATION AND CHANGE

Higher education globally is operating in an environment of continuous change and uncertainty. Managing quality, innovation and change effectively is critical to the performance and competitiveness of higher education institutions and Bell *et al.* (2012:5), claim that higher education management must address both problem-setting and problem-solving processes in assessing new approaches to identify higher education challenges – which may propose new management practices. Problem-setting, according to Schon (as cited in Bell *et al.*, 2012:5), is seen as an interactive process of awareness to identify issues of complexity and uncertainty, to define problem boundaries, and to select appropriate approaches that lead to informative decision making by management. Problem-solving, on the other hand, includes six sequential phases and, according to Keys (in Bell *et al.*, 2012:9) these are:

- Formulating the problem: Identify decision makers, objectives, processes involved, alternative courses of action and criteria for measuring.
- Creating a model: To determine the effectiveness of variables in the process.
- Obtaining solutions from the model: To identify which actions are most and least effective
- Testing the model and solution: Experiment between predicted and actual performance and take corrective action.
- Instituting controls over the solution: Institute set rules for actions that require change.
- Submitting the solution: Provide and transfer information with supportive advice/training for necessary or suggested changes.

Morgan, as cited in Bell *et al.* (2012:3), maintains that a thriving institutional management is 'open and flexible' and willing to postpone decisive action until a better understanding of options has been achieved and informed decisions can be made. Instead of denoting quality (Clare, 2012:37), 'fitness for purpose' and 'conformance to specifications' have come to signify a workforce that continuously needs to update its skills to meet the requirements of a changing labour market. Fitness for purpose is determined during the design phase, and conformance to specifications concerns operational processes related to the development of innovative approaches. A process is fit for purpose if it achieves what it was designed to achieve and conforms to specifications if it does so within the confines of the requirements set. These indicate the appropriateness of a design and determine the user guide requirements. This combination determines the quality level. In contrast to goods and products that have an expiry date, institutions of learning tend to guard academic programmes long after they should have

been revised. Swanger (2016:46) voices his concern over institutions that seem to have programmes that survive indefinitely despite unsatisfactory academic outcomes, unemployment due to inadequate skills training, lack of resources and facilities, etc.

Much focus has been placed on management practices and the measurement of institutional quality (Bell *et al.,* 2012:4). However, according to Mulkins-Manning (cited in Ballard, 2013:5) there is no single definition of what constitutes a quality institution in the United States of America nor an agreement about what quality is or how it should be measured. In the United Kingdom, where quality is generally seen as the most extensively developed (Allais, 2017:148), different attempts are directed through educational institutions to the needs of business and industry, including a more substantial scrutiny of institutional performance (Clare, 2012:31). Institutional quality in sub-Saharan Africa, according to the British Council (2014:3), is under threat and faces 'severe quality challenges'. This is evident from a review of the quality of law degrees, for example, offered at four particular universities in South Africa which failed to meet required standards (Mothibedi, 2017:1) and law firms highlighting the inadequate quality of law graduates insufficiently prepared for the legal profession (Jenvey, 2017:1). Although there are isolated areas of excellence across institutions of higher learning in sub-Saharan Africa, and South Africa has better infrastructure, the low completion and high dropout rate – with only fifteen percent of students completing their studies in the allocated time at public universities in South Africa – pose extreme challenges in terms of employability (British Council, 2014:6). Swanger (2016:3) highlights the views of business and industry, and postulates that if higher education institutions were more innovative, their outcomes would improve.

In order to retain 'fitness for survival' (Boulding, as cited in Bell *et al.*, 2012:3), higher education management practices should be more flexible, innovative and explore 'new angles' (Bell *et al.,* 2012:3) in addressing skills development by way of incorporating technology in formal learning. The digital age requires educational managers that manage and lead in new ways and in multiple areas to keep up with the rapidly changing demands of society. This is not only applicable to the business of education. According to the eBook, *The Digital Economy: Reinventing the Business World* as cited in Reschke (2016:1), companies that want to remain competitive should completely redesign their business models and processes to meet the changing needs of their stakeholders operating in a rapidly expanding digital economy. In order to fight for survival through digital transformation, management must be willing to

relinquish control and surround themselves with a workforce that can execute a digital vision in order to remain competitive and survive the digital age (Reschke, 2016:1). To improve organizational performance, higher education should be equipped for the needs of business and industry and the performance of higher learning institutions should be closely investigated (Clare, 2012:31-41).

3.2.1 Performance indicators for higher education

Performance indicators refer to a set of measures taken by the higher education sector that contributes to both government and the institution's vision and goals for evaluating progress towards specific objectives and desired results, which do not only serve as external assessment of institutions by government, but internal assessments of institutional and departmental goals (Martin & Sauvageot, 2011:9; Bunting, Sheppard, Cloete & Belding, 2010:3). Performance indicators further assist to equip students with 'skills and qualifications needed to participate effectively in the labour market' (Tertiary Education Commission, 2014:1). Changes in higher education systems and institutions globally are profound and accelerating. According to Castells, as cited in Cloete and Massen (2015:2) and supported by Van Der Pol and Bray (cited in Martin & Sauvageot, 2011:9), it is vital that higher education institutions are seen as places that instil employability skills and promote higher-order thinking. It is important to indicate the pre-eminence of this level of teaching and learning when attempting to build a knowledge society. The authors further postulate that teaching and learning in the 21st century requires rapid transformation and a reshaping of higher education management and governance, a view that is supported by Hazelkorn (2015:205). In order to respond to changing demands, institutions are compelled to establish their own management capacity and implement better performance indicator systems and assessment tools. Clare (2012:43) debates the appropriateness and acceptability of performance indicators in higher education if these indicators are repeatedly proposed but seldomly adopted. Bunting *et al.* (2010:5) state that very few institutions in South Africa produce the data sets that would enable the Centre for Higher Education Transformation (CHET) to 'engage meaningfully in discussions about the performance of the institution which they are entrusted to govern'.

In the 2000s, the Centre for Higher Education Transformation (CHET) in South Africa initiated a series of performance indicator studies to assist with the transformation of the public higher education sector and explored different approaches to assess performance in the South African higher education sector. Government does not manage admission and enrolment processes of

individual higher education institutions; however, it a) directs and specifies national higher education goals, b) determines what qualifications and fields of study individual institutions can offer, c) links goals to a funding system that contains performance incentives, and d) monitors and evaluates the performances of individual institutions in relation to set goals and incentives (Bunting & Cloete, 2012:2). Bunting *et al.* (2010:4), and Bunting and Cloete (2012:6) highlight the performance measurement model that was introduced for public higher education institutions in 2004 with performance indicators that broadly cover:

- Size and shape of student enrolments.
- Student equity.
- Student pass rate and graduation rate.
- Staff equity.
- Qualifications of staff.
- Research outputs.

This performance measurement model, however, does not provide for performance indicators to measure students' possibilities for work placement, employer engagement, specific skills development, or focused employability needs and employment rates; nor does it look at how particular curricula and programmes feed into the labour market. It is perceived that the quality, effectiveness and relevance of the higher education system in South Africa do not contribute to equipping or measuring a work force adequate for new and changing conditions.

In a joint venture with universities in sub-Saharan Africa, the Centre for Higher Education Transformation (CHET) in South Africa extended a cross-national performance indicator project which included eight universities across a range of African countries to establish the HERANA project (Higher Education Research and Advocacy Network in Africa). These universities in Africa were identified as flagship universities, perceived as the top university in each country. They included the University of Botswana, University of Ghana, University of Dar es Salaam in Tanzania, Makerere University in Uganda, University of Cape Town in South Africa, University of Nairobi in Kenya, University of Mauritius and Eduardo Mondlane University in Mozambique. According to the World University Rankings, as cited in Bunting and Cloete (2012:16), only the University of Cape Town and three other South African universities are regarded flagship universities ranked among the top 600 universities worldwide. Nevertheless, with the assistance of the Centre for Higher Education Transformation (CHET), all eight universities agreed on a set of performance indicators to be

used to analyse their core academic strengths and to determine institutional development and future plans for each university (Bunting & Cloete, 2012:18-19). These indicators included:

- Distinct and visible enrolments in science, engineering and technology.
- Growth of postgraduate enrolments.
- An attractive student-tutor ratio.
- Increased quantity of academic staff with doctoral qualifications.
- High level of research funding per academic.
- Improvement of graduation rates in science, engineering and technology.
- Increased level of doctoral graduates.
- Higher levels of knowledge production through research outputs.

Regardless the notable efforts and some difficulties (Bunting & Cloete, 2012:65), no mention is made of higher education and business partnerships, the development of specific skills, expansion of higher education to meet 21st century learning needs, or a possible reconsideration of a performance indicator model to suit the needs of each specific country in sub-Sahara Africa.

> *If new ways of learning are to help those who need them most, policymakers should be aiming for something far more radical. Because education is a public good whose benefits spill over to all of society, governments have a vital role to play—not just by spending more, but also by spending wisely* (The Economist, 2017:1).

In the United Kingdom, performance indicators for higher education were developed from recommendations by the Dearing Report (1997), which advised a set of indicators that measured the performance of the higher education sector and formed part of the United Kingdom's government proficiency plans. Since its inception, performance indicators have been transformed and developed to ensure they remained fit for purpose (Pollard, Williams, Williams, Bertram, Buzzeo, Drever, Griggs & Goutinho, 2013a:1). Many working groups and numerous reports indicated an introduction of sector-wide performance indicators to be used in a diverse higher education system (Pollard *et al*., 2013b:6-10; Clare, 2012:40). Higher education in the United Kingdom moved from a structured and regulated system to a market-based system focussing on 'value for money', and quality of 'products' and 'suppliers', which showed an increase of 'participants in the marketplace' (Pollard *et al*., 2013b:6). However, the changing face of 21st century higher education due to increased legislation, the evolving role

of educational institutions, diversity across nations, countries and students, and the emphasis on 'student as consumer', creates challenges for performance indicators as it does not cover all aspects of higher education and are not necessarily produced for the 21st century student (Pollard *et.al.,* 2013a:5; Clare, 2012:41). Both the Institute of Employment Studies and the National Centre for Social and Economic Research proposed new, recommended performance indicators for institutions in the United Kingdom, with particular focus on financial sustainability, quality of teaching, international prospects, business and employer engagement, and the 'value-added or value for money offered by higher education institutions, either at an individual institution or sector level' (Pollard *et.al.,* 2013a:vii) to keep up with 21st century teaching and learning.

3.2.2 21st century teaching and learning

It is almost impossible to imagine 21st century teaching and learning without technology integrated into the classroom to meet 21st century expectations (Fahlvik, 2014:239). In understanding adult students' preferences in 21st century classrooms, institutionalized structured and regulated teaching and learning does not foster adult students' agendas in terms of how, when and where they prefer to engage in the learning process. Quinton (2012:65) argues, and this is supported by Van Tonder (2015:107), that greater flexibility and innovative ways of accommodating the how and when of learning are important considerations for adult students. Traditional classrooms of the late 1800s were designed to prepare students for careers in an industrial economy with a one-size-fits-all approach, which was never designed to meet 21st century expectations (Arnett, 2013:1). Whilst the scope and style of education changes as technology changes, and teaching and learning by means of technology offers various benefits and possibilities, caution should be taken that educational goals rather than technological possibilities remain the primary focus. Van Tonder (2015:90) states that teaching and learning with technology should enhance the learning experience and not substitute and replace the fundamental understanding of what it takes to learn. Arnett (2013:1) concurs with Laurillard (2013:xvi), and Kalantzis and Cope (2012:18), who postulate that education is essentially about guiding the student to learn, and leading the use of technology rather than adapting to what technology offers. While technology is not a replacement for tutors, using technology, especially in blended learning, has the potential to compliment significant dimensions of the teaching and learning environment. Despite some limitations, tutors globally are becoming more advanced in the use of educational technology as the benefits in teaching and learning are increasingly recognized. According to Quinton (2012:66), supported by Van Tonder

(2015:109), this awareness leads to increased collaboration and association between tutors in their educational delivery as they work together, share resources and teaching strategies, and are able to provide better student support and fulfil student needs. However, according to The Economist (2017:1), the biggest challenge is to make adult learning accessible for all, although learning with technology has enabled employees to 'learn and earn' in new ways. The Organisation for Economic Co-operation and Development (OECD), as cited in The Economist (2017:1), reported that one in four adults have no or limited computer skills and policymakers are urged to develop ways how students could be assisted to 'learn while they earn'.

Besides adults' teaching and learning preferences, adult students want to know how sustainable their learning is and how their learning relates to future employment. Priddle, Greig and Wiles (2015:143) found that students who demonstrate non-curricular skills have an advantage in gaining suitable employment, although employees have to acquire new skills and update existing skills throughout their working careers. In a study done by Priddle *et al.* (2015:143), students at a particular university in the United Kingdom acquired employability skills outside their formal curriculum, which highlights the divide between student-perceived employability skills and an institution's delivery according to its own perceived employability skills. Eccles (2012:103) strongly rejects employability as an 'academic' responsibility, and postulates that the primary focus of tutors should be on graduateness and not on employability. This is supported by Griesel and Parker (2009:3), who hold that universities are not 'human resources development factories' and Jones's (2016:108) remark that 'education is about much more than getting a job at the end of the process'. Despite disparities in terms of the relation between graduateness and employability, students and institutions the world over acknowledge the importance of skills development and the inclusion of skills for sustainability and employability into the formal curricula, and this cannot be ignored (Priddle *et al.,* 2015:153; Ripmeester, 2016:125; Jones, 2016:108).

3.2.2.1 Higher education: A global perspective

Higher education globally was discussed during the World Economic Forum held in Incheon, Korea in 2015, with 1600 participants from 160 countries that participated in a new vision for education towards 2030 and acknowledged the role of education world-wide as crucial in addressing employability needs. These countries expressed their commitment to transform quality learning and improve learning outcomes through a lifelong learning approach towards 2030 (World Economic Forum, 2015: iii). Acknowledging the impact of living in a technology-

driven world with rapid changes, increasing global unemployment, student diversity, economic instability, inequalities, demographic challenges and more, education systems worldwide have to be relevant and respond to these pressing issues (World Economic Forum, 2015:7). Despite mixed views in the higher education sector pertaining to employability skills development, the Word Economic Forum (2015:15) highlighted the role of higher education institutions to develop and impart employability skills in their formal curricula to achieve social, cultural and economic growth.

Bond University in Australia has incorporated a series of Australian government-commissioned core subjects into their formal undergraduate level to address employability skills development aimed to produce graduate outcomes focused on globally relevant careers (Kinash, 2015:1). In Greece, the development of employability skills and use of technology in higher education institutions has dominated educational research in recent years, and according to Asonitou (2015:285), the inclusion of skills development into the formal curriculum with government's assistance should be further explored. In the United Kingdom, Chatterton and Rebbeck (2015:1-4) reported on twenty case studies conducted across higher education, and further education and skills institutions emphasising the potential of technology as an enabler to develop employability skills in higher education; however, few higher education institutions are making use of the opportunity and availability of technology. During 2014/2015, an employment curriculum at Kansas University in America was formally integrated into academic programmes through self-paced online learning (Gaston & Perel, 2014:13).

An intolerant and conservative approach towards employability development in higher education, according to the World Economic Forum (2015:17), narrows graduates' abilities to 'adapt to the fast-changing demands of the labour market'. Industry highly values both cognitive and transferable skills that can be used across a variety of careers. Moreover, students should be provided with opportunities to continuously update their skills through lifelong learning (Spring, 2015:97; World Economic Forum, 2015:17).

Another trend is the increasing global and local migration, mostly from poorer to wealthier nations. In 2014, there were more than five million mobile students globally, compared to just more than two million in 2000 (Minsky, 2016:1). Tutors and students relocate to other institutions and countries to improve or complement their academic careers, which, according to Jones, Coelen, Beelen and De Wit (2016:3) and supported by the World Economic Forum (2015:15), have a positive impact on employability and global competitiveness. A growing

concern about the comparability, recognition, and quality assurance of non-standardized qualifications give rise to questions, particularly in countries where administrative management systems are inadequate. Therefore, quality higher education institutions globally should, according to the World Economic Forum (2015:10) be:

> *…educational systems, supported within a well-resourced, having efficient and effective managed system, following practices for quality assessment and quality learning that include evaluation of input, environments, processes and outcomes*.

However, with 'borderless education' (Knight, as cited in Spring, 2015:96) students and tutors using technology to teach and learn without having to migrate to other countries share knowledge and opinions through global online discussions. Blended learning approaches, particularly in the United States of America, continues to develop, advance and multiply (Kyei-Blankson & Ntuli, 2014:xxi), indicating that approximately 55 percent of all higher education institutions offer at least one blended programme, and according to the US National Centre for Education Statistics (as cited in Johnson, *et al.*, 2016:16) one in ten students have been enrolled in online learning exclusively since 2012, with 7.1 million American students engaged in some form of technology learning. Johnson *et al.* (2015:16) state that the growing demand from students for more flexible and accessible modes of learning has resulted in blended learning options explored by various higher education institutions. Many countries, according to the World Economic Forum (2015:16), are expected to address the rapidly changing needs of youth and adults due to continuously changing markets, rising unemployment rates, migration, and technological developments.

3.2.2.2 Higher education: A South African perspective

The higher education landscape in South African has drastically changed in two decades of democracy since 1994, and according to the South African Council on Higher Education (2016:10), skills development has received more emphasis to enhance economic advancement and to focus on strengthening the use of technology in higher education. With an increase of student numbers in public higher education of around half a million in 1994 to almost one million in 2015 (South Africa. Council on Higher Education, 2016:6) and a prospective growth to 1.6 million students by 2030 (South Africa. Council on Higher Education, 2016:23), a wider variety of delivery modes and sites of production is envisaged through the growth and progress of technology (South Africa. Council on Higher Education, 2016:12). Through massification and globalization, where large numbers and more diverse students are operating in globally

connected economies, access to knowledge and sharing data and research (South Africa. Council on Higher Education, 2016:13) is set to change traditional institutions into 21st century learning institutions. Although technology has already been incorporated to a certain extent in South African higher education institutions, the exact impact of further development and additional technologies is still uncertain and very little knowledge and feedback is available on how the quality of learning would be affected by using technology on the level imagined to facilitate the process. This is due to the lack of a framework and policy guidelines for technology facilitation in South African higher education (South Africa. Council on Higher Education, 2016:16; South Africa. Department of Higher Education and Training 2015:16; Van Tonder, 2015:9). Despite the 2013 General Household Survey (National Youth Policy 2020, 2015:7) indicating that a mere five percent of households in South Africa did not have access to a landline or mobile phone – a fairly low barrier to contend with – the lack of dedication to implement measures to fully utilize the many advantages of technology in higher education is staggering.

Globally, countries have voiced the need to develop students' knowledge, skills and competencies for adequate careers, entrepreneurship and life (World Economic Forum, 2015:16). In South Africa, the high youth unemployment rate is largely ascribed to the low skills and skills shortages in the country (National Youth Policy 2020, 2015:12). This does nothing to improve the even bleaker reality of poor economic growth having more people dependent on social grants from government than people who are actually employed. A 2016 survey by the Institute of Race Relations showed that 15 545 000 people were employed, versus 17 094 331 people who received social grants. In the fifteen years since 2001, job creation increased by 24 percent while social grant receivers increased by 328 percent. This, according to the Rand Daily Mail (2017:1), is '… a recipe for social and political chaos…' as is evident from the student protests in 2015, 2016, 2017 and again in 2018, highlighting both the funding crises and increased access into higher education, which is becoming more and more expensive for students (Charlton, 2018:1; Allais, 2017:147; De Villiers, 2017:1; Habib, 2016:1).

The rapid growth in student enrolments (Allais, 2017:148; South Africa. Council on Higher Education, 2016:6), massification, and funding emergencies further emphasize the need for improved ways of understanding the role of higher education to assist in expedited and innovative modes of delivery, evaluation and development of employability skills. Moreover, the role of higher education institutions in developing South Africa's economy cannot be

ignored. Growing a knowledge economy by educating highly skilled workers contributes not only to more ethical citizens, but creates a professional workforce that makes a meaningful contribution to economic development and the solution to a more inclusive society (Habib, 2016:1; British Council, 2014:2).

The quality of teaching and teaching methods influences graduate employability as core employability skills rely on high teaching quality, which provides for meaningful learning. According to the British Council (2015:2; 2014:10), in sub-Saharan Africa poor learning environments, including high tutor student ratios and inadequate educational development for academic staff fail to enhance student employability. It is evident from students' critical views of teaching practices that more innovative learning approaches are essential (British Council, 2015:14). Outdated curricula, lack of practical application, relevancy of subject matter, absent tutors and the emphasis on rote learning for examination was expressed as the ultimate challenge by students interviewed at different sub-Saharan Africa universities (British Council, 2015:17).

However, the South African Council on Higher Education (2016:9) recognizes these challenges, and have provided assurances of more relevant curricula, pertinent assessment criteria, and considerable recognition for the importance of innovative teaching and learning. A further acknowledgement by the South African Council on Higher Education (2016:15-16) is the role and possibilities of online teaching and learning, and the feasibility of collaborative learning and interaction, virtual communities of practice between institutions, learning analytics for monitoring learning progress, and improving student success when using technology to teach and learn. Driven by international trends, blended teaching and learning options are also considered for South African higher education, as it could be more financially viable (South Africa. Council on Higher Education, 2016:82). It would, however, be up to the discretion of the individual institutions, and blended learning – as opposed to pure online learning – may offer notable advantages, but also require major efforts to be successfully incorporated into South African higher education (South Africa. Council on Higher Education, 2016:372).

3.3 MANAGING BLENDED TEACHING AND LEARNING ENVIRONMENTS

Implementing and managing blended learning environments for sustainability are based on practices, theories and values accepted by institutions, tutors and students (Sibbel, 2014:15). Filho (2014:275) is supported by Sibbel (2014:15) when emphasising the importance of

institutional commitment towards successful implementation and management of blended teaching and learning environments supported and guided by a national framework and policies. Higher education institutions of the 21st century fulfil multiple functions that contribute to societal, economic and cultural environments, and institutions globally are exposed to continuous changes that necessitate the development of ways for competitive advantage and sustainability (Korka, 2016:89). Some institutions are more prone to change than others and Korka (2016:90) argues that 'universities as knowledge and skills providers cannot be defended by stiff attitudes towards complex changes in the society.' A report by Educause Centre for Analysis and Research, as cited in Banciu and Florea (2016:118), states that more than two thirds of academic leaders consider technology learning as an option, driven by an increase in students who prefer the convenience of the mode, have access to recent and relevant learning material, have tutors who are up to date with technology and have a delivery approach that is concise, convenient, current and affordable, and have instant access to knowledge and materials (Van Tonder, 2015:105; Banciu & Florea, 2016:117-119). Educause Centre for Analysis and Research came to some important conclusions (as cited in Banciu & Florea, 2016:119):

- Almost all higher education institutions show an interest in blended learning, acknowledging that technology in learning is crucial for sustainability and progress.
- For successful implementation, a centralized, consolidated blended learning model is more efficient.
- There is a need to expand and recruit more technologically advanced staff for curricula and programme development, designing applications, and for professional development.
- The ultimate concern in blended learning was teaching staff's lack of technological knowledge.
- Institutions are more mature in their interaction and cooperation of blended learning systems than in assessing blended learning outcomes.
- Responsible blended learning environments involves seven factors:
    - Policies and administration of ongoing evaluation
    - Training
    - Interaction and cooperation
    - Giving priority to blended learning success
    - Outcomes assessment

    - Willingness
    - Support of academic and administrative staff

- Most important when using technology to teach and learn, is reliability, security measures to protect student information, simplicity of use for both tutors and students, and effectiveness.

A framework comprising of five pillars identified by the Online Learning Consortium, previously the Sloan Consortium (Online Learning Consortium, 2014:1) for various accredited higher education institutions concerned with quality technology learning, has been developed and strongly correlates with the report of the Educause Centre for Analysis and Research as cited in Banciu and Florea (2016:120) to support learning effectiveness, student satisfaction, tutor satisfaction, cost effectiveness and access to learning (Banciu & Florea, 2016:120; Tandoh *et al*., 201419; Online Learning Consortium, 2014:1). Whilst Korka (2016:96) argues that the core academic values of higher education institutions will be preserved, managers of high- performance institutions increasingly recognize the growing diversity and the various roles that institutions, tutors, and adult students need to fill to achieve sustainable development. Therefore, an expanded higher education system that understands the need for flexible organizational structures with shared responsibilities between all stakeholders can ensure a competitive advantage when using blended learning.

A visual outline of the following three sections is presented in figure 3.2. Firstly, a *macro-level approach* of an expanded higher education system, which includes globalization, access, equity and ethics, delivery systems, and sustainability development will be discussed, followed by a *meso-level approach* of institutional governance and management to include academic support, student support, quality assurance, assessment, and staffing and administration. Thirdly, a *micro-level approach*, focussing on teaching and learning in blended learning environments to include instructional design, interaction, and communication and individual attributes as outlined will be presented.

Table 3-1: An outline of a macro-level approach in expanded higher education system, a meso-level approach of institutional governance and management, and a micro-level approach to teaching and learning in blended learning environments

EXPANDED HIGHER EDUCATION SYSTEM: A MACRO-LEVEL APPROACH	INSTITUTIONAL GOVERNANCE AND MANAGEMENT: A MESO-LEVEL APPROACH	TEACHING AND LEARNING IN BLENDED LEARNING ENVIRONMENTS: A MICRO-LEVEL APPROACH
Globalization: *A global workplace, a borderless workforce*	**Academic support:** *Tutor training, development, support and evaluation*	**Instructional design:** *Curriculum and programme development*
Access, equity and ethics: *Finding new ways to quality delivery*	**Student support:** *Career advice services, counselling and technical support*	**Interaction and communication:** *Learning communities*
Delivery systems: *Institutional partnerships and sharing good practices*	**Quality assurance:** *Accreditation, certification, standards and student retention*	**Individual attributes:** *Teaching and learning*
Sustainability development: *Educational progress for public and private good*	**Assessment:** *Evaluation of learning and programme outcomes*	
	Staffing and administration: *Resources and support*	

3.4 EXPANDED HIGHER EDUCATION SYSTEM: A MACRO-LEVEL APPROACH

Following a macro-level approach, government-led action in countries drives change; which is supported by various successful and effective stakeholder partnerships, resources and funds. It is expected of governments to translate global objectives on a macro-level into achievable national objectives supported by their educational predispositions, national development plans and strategies, organizational systems, institutional capacities and general support (World

Economic Forum, 2015:12). In many countries, education and training policies are expected to address rapidly changing needs for both youth and adults to improve their skills and learn new ones in such a way that institutions might not be recognizable in the next century (Hora, Benbow & Oleson, 2016:208). Consequently, it is imperative to increase and diversify learning opportunities by using flexible and efficient approaches that address changing needs (Miron, 2016:79; Korka, 2016:90).

Reaching the projected 1,6 million higher education students in South Africa by 2030 (South Africa. Council on Higher Education, 2016:23) will require more buildings, infrastructure, human resources and costs which, as argued by Bunting and Cloete (as cited in Van Tonder, 2015:31), is not a solution to the requirements of a wider variety of delivery modes and options more relevant to 21st century teaching and learning. Most higher education institutions do not address skills shortages and the need for employability development in their formal curricula (Gibbon, Muller & Nel, 2012:131), which according to Priddle *et al.* (2015:153), Ripmeester, (2016:125), Jones (2016:108), and the Word Economic Forum (2015:15), cannot be ignored when observing the demands of a changing knowledge economy. Higher education institutions have a role and responsibility towards their communities and countries to create new knowledge and ensure incorporation of employability skills into their curricula to enable graduates to enter the job market with skills useful to the economy (Hora *et al.,* 2016:204; Gibbon *et al.,* 2012:131). A 21st century world of work requires employees that are flexible and adaptable, and are lifelong students with the ability and willingness to learn (Hora *et al.,* 2016:5). Hora *et al.* (2016:44) and Ripmeester (2016:124) also maintain that higher education must remain in charge of education and should respond to the demands of industry, not the other way around.

Much has been said about the review, analysis and improvement of the quality of teacher training (pre-service and in service). However, since the introduction of a 'culture of evidence' (Hora *et al.,* 2016:162) into higher education in the 1990s, holding the tutor accountable for student success often in unprecedented ways, little concern in supporting high-quality teaching or constructing a skills infrastructure to equip tutors for 21st century education has been done. Hora *et al.* (2016:162) postulates that higher education policies are often designed primarily to enforce compliance with accountability measures instead of assisting and supporting tutors in their professions, provide leadership support, resources, favourable workplace conditions, etc. The World Economic Forum (2015:24) suggested the provision of quality pre-service

education and training for all tutors, including continuing professional development and support that has a positive impact on tutors' professional careers and the strengthening of institutional leadership to improve the teaching and learning environment. It can, however, be argued that the success in meeting the future needs of students calls for new teaching methods and approaches that are more in line with 21st century expectations and demands. It is already evident in a technology learning environment that the interactive features promote deeper understanding and encourages student participation. Students are more willing to comment and voice ideas online, provided that course materials are appropriate, current and demand driven. Furthermore, assessments that are interactive and combined with constructive feedback customized to individual needs are linked to more engaging teaching and learning (Van Tonder, 2015:62-63, Quinton, 2012:70). A major challenge for tutors is implementing learning design methodologies to incorporate employability skills valued by students, employers and society. Future learning environments should demonstrate explicit pedagogical and technological objectives, expectations and measurements for tutors who have to engage with and be measured against their use of technology for academic success (Quinton, 2012:70-71).

With employers constantly voicing their concern over graduates' lack of employability skills and intercultural skills in the workplace, the transformative experience of experimenting with new ideas and knowledge when exposed to a broad exploration across disciplines has an added employment benefit to students (Hora *et al.,* 2016:206). Evidence indicates that technology learning offers possibilities of local internationalization and mobility where students are exposed to global learning options without having to leave or relocate for alternative educational purposes (Jones, 2015:97). Van Tonder (2015) conducted a study with adult students based in the Western Cape, South Africa, and in the United States. The individuals were enrolled in the same programmes and were using the same technological platforms, but on different learning sites. They were from different social and economic backgrounds but collaborated across borders by employing teamwork, negotiation, problem-solving and intercultural skills, all essential employability skills the world over (Jones, 2016:106). There is a high correlation between internationalization and employability. Many studies have indicated that graduates with international study exposure are particularly desirable to employers, as they possess transferable skills and signal independence, responsibility, ambition and curiosity (Ripmeester, 2016:121). Another concern is graduates who often reveal their learning as inadequate when they fail to understand what is needed to promote their experience and skills to employers because they do not know how their core subjects relate to employability

(Ripmeester, 2016:124). An intensified link between higher education and the world of work is necessary. In 2014, in a series of blog posts on employability for the European Association for International Education (as cited in Ripmeester, 2016:125), graduates revealed an intensified link between higher education and the world of work (as indicated in figure 3.1).

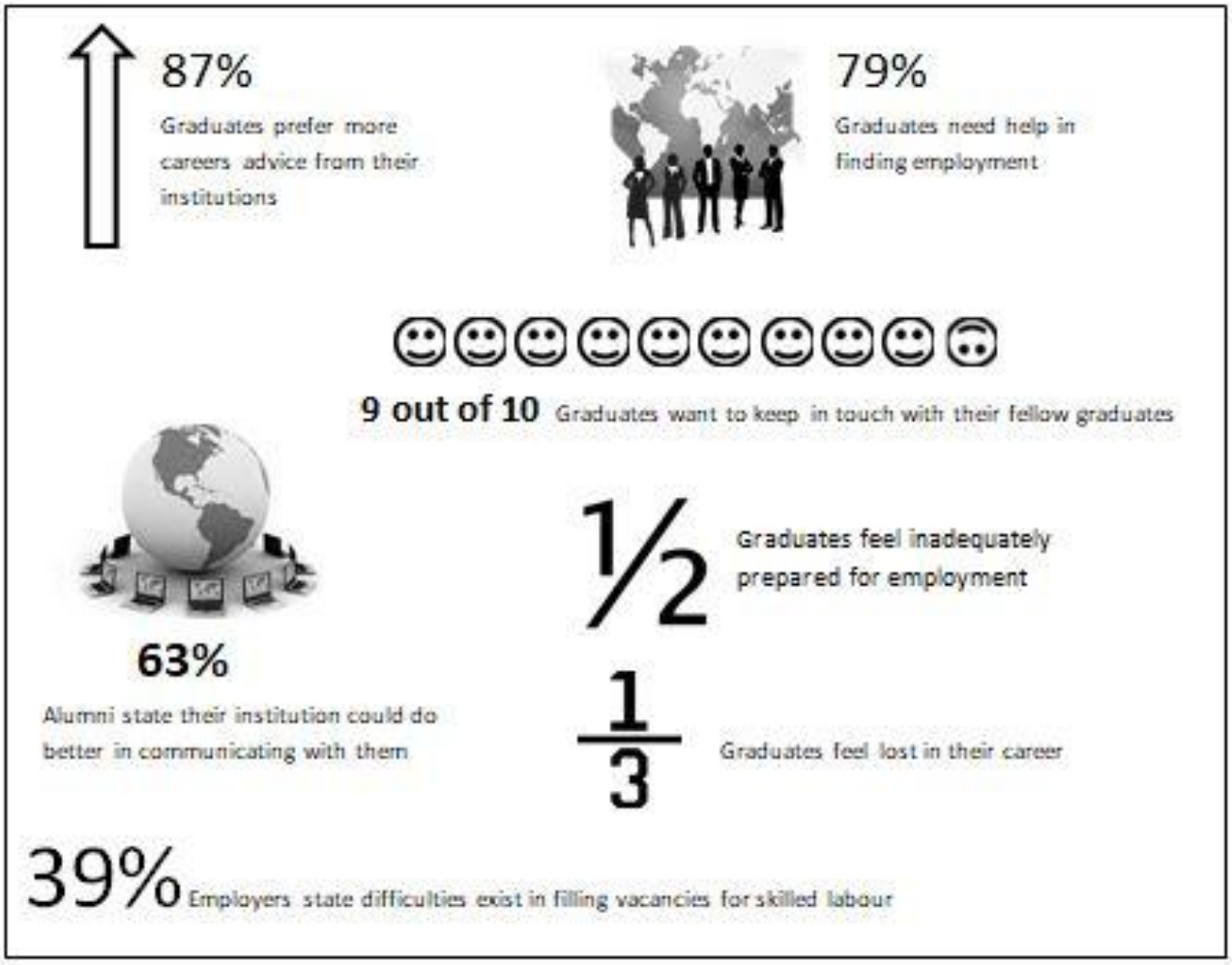

Figure 3-1: Students, graduates and employability (Pollock, as cited in Ripmeester, 2016:125)

Students and graduates globally want to understand and be informed of how meaningful their learning is in preparation for employment and whether they are suitably equipped for the workplace, and they need their institutions to guide and advise them. Figure 3.1 indicates that 87 percent of graduates prefer more career support from their institution; 79 percent of graduates require assistance in finding employment; nine out of ten graduates wish to stay in touch with their fellow students, and 63 percent of alumni indicate that communication between themselves and their institutions could have been more useful. One half of graduates felt that they were inadequately prepared for employment, while one third of graduates felt lost in their

careers with 39 percent of employers admitting difficulty in filling positions for skilled work. This view is supported, since students – as paying customers – can choose where they want to invest for their futures. Bunce, Baird and Jones (2016:3) report that 'students-as-customers' are demanding more and better from their institutions than ever before with growing evidence of them being more career-focused and opting for study programmes with clear employment prospects. Exposure to educational institutions worldwide and being connected to various global information networks open possibilities of a 'global workplace' and 'borderless workforce' (Tarique, 2014:6), which is discussed next.

3.4.1 Globalization: A global workplace, a borderless workforce

The term 'globalization' was coined by economist Theodore Levitt in 1985, and was quickly applied to political and cultural changes (Spring, 2015:3). In education, globalization is technology-driven (Merriam, 2007:17) and refers to 'worldwide networks, processes, and institutions affecting local educational practices and policies' (Spring, 2015:1). 'Borderless learning' (Knight, as cited in Spring, 2015:96), with the use of technology and embedded employability skills, offers the potential for students to be employed in a 'global workplace', and join a 'borderless workforce' (Tarique, 2014:6). Globally, learning with technology is contributing to a world culture of higher education, and institutions that follow a blended and virtual approach are protected under the General Agreement on Trade in Services (GATS), which is recognized by the World Trade Organisation (WTO) and constitutes an important area of global growth (Spring, 2015:97). The WTO is controlled by its 164-member countries and 21 observer countries, of which South Africa became a member on 1 January 1995 (World Trade Organisation, 2016:1). A rapid growth in the internationalization of labour and products can be expected in the coming years (Tarique, 2014:6). This is also true for higher education, given the rapid expansion of technology. 'Borderless learning' (Knight, as cited in Spring, 2015:96) encompasses individuals and communities in a global workspace that represents various backgrounds, geographic locations and cultures that collaborate across countries and regions, and shows evidence of how global educational technologies impact on local pedagogies (Spring, 2015:6). In more recent times, motivators and drivers in higher education globally include multiple aspects outlined by Hudzik (2016:24) as:

- The core mission of higher education across borders is the creation, transmission and application of knowledge.

- An understanding that customers of higher education (students, employers and communities) function in a global environment and that local customers are global customers too.
- All-embracing knowledge societies and economies are expanding to benefit from an inclusive global marketplace.

Reinventing higher education for a cross-border supply of skilled potential employees is particularly evident in Stanford University's open online learning offering where 160 000 students in 190 countries enrolled in a skills programme that was translated into 44 languages. Students could, without leaving their countries or workplaces, globally share opinions on topics through online discussions. Detailed records of the thousands of students who completed this skills programme – and received printable certificates suitable for framing with their percentage scores – are available for purposes of work placement in their home countries (Spring, 2016:97; Lewin, 2012:1). Other institutions that announced similar cross-border learning technologies include the Massachusetts Institute of Technology and Georgia Institute of Technology (Lewin, 2012:1). The Department of Higher Education and Training in South Africa (2014:17) view cross-border educational services as a public good, although it has emphasized the need for regulation and a code of conduct to assure acceptable standards and quality to prevent fraudulent and/or inferior qualifications, as the African Union Commission has identified quality assurance as one of the major challenges facing higher education in Africa (University of Oxford, 2015:21).

Regardless of study fields, some higher education institutions include credit-bearing, career-specific professional courses as well as general, skills-specific education courses in their formal programmes to improve employability skills for the global economy. The educational philosophy of Harrison College in the United States is that all their students have to demonstrate proficiency in categories of communication, natural sciences, humanities, mathematics, and social and behavioural sciences associated with employment. A credit-bearing compulsory subject, namely American Government, was designed to introduce the structure of the American government at local and national level to inform students, as future employees, about taxes, legislation and government structures that affect their lives (*https://harrison.edu/about/academic-affairs*). This is supported by Spring (2016:98), who indicates that the U.S. State Department has not only embedded an element of patriotism into technology learning, but has included courses in science, technology and entrepreneurship to build skills development. However, action is needed to ensure all students have access to and

take advantage of the full benefits that technological resources have to offer to prepare them for careers and life, regardless of economic and geographic position. While the advantages of these developments are extraordinary, new avenues to quality learning and delivery outside the formal classroom also entail issues of access, equity and ethics, which have to be addressed.

3.4.2 Access, equity and ethics: Finding new ways to quality delivery

The recognition of education as a driver of economic recovery in both developed and developing economies has steered attention to a new focus on learning design and the development of employability (University of Oxford, 2015:15; Beetham, 2013:269). According to Rose (2014:7), when assuring social equity, blended and online learning must provide students with the ability to develop and enhance higher order development and offer possibilities of equal access for all students to develop to their fullest. With the degree and evolution of social transformation due to globalization and the advancement of digital technologies in education, education should provide students with the freedom to develop a variety of possibilities and opportunities, and learning should be constructed to provide different views of the world to encourage active participation (Blackmore, 2013:1007). In blended learning environments, some of the most important methods globally to empower and engage student participation is the quality of programme content (Yousef, Chatti, Schroeder & Wosnitza, 2015:84), the ease of access and navigation, and interface design (Lane, 2016:51).

With the support of government, institutions and other stakeholders, a quality blended learning programme should accommodate and support national and institutional policies and practices to meet a variety of needs identified through needs assessments. Such programmes should also adhere to legal requirements, and remain consistent with set mission and value statements (Rose, 2014:9; Moore, 2013:419) – including effective curriculum management to assess programme outcomes, tutor participation and the provision of effective student support (Van Tonder, 2015:134). Such policies can be seen as tools to advance programme ethics, equity, access and growth (Simonson & Schlosser, 2013:437). The effectiveness of quality blended learning that is supported by government and institutions further depend on appropriate and clear technology guidelines (which should be reviewed regularly), accepted ethical standards of practice, ethical use of technology and communication, explicit roles and responsibilities, the protection of sensitive information of technology users and a reliable ethical decision making model (ACES, 2017:11). The Department of Higher Education and Training (2014:15) in South Africa expressed its vision in line with the *White Paper for Post-School Education*

and Training (2013), which is the priority of diversifying and expanding access to adult education through more flexible forms of delivery to produce urgently needed knowledge and employability skills. To support the quality of adult education in South Africa, the Department of Higher Education and Training have committed to:

- Improve equitable access to and the use of appropriate technology learning as outlined in the *White Paper for Post-School Education and Training* (South Africa. Department of Higher Education and Training, 2014:15; South Africa. Department of Higher Education and Training, 2013:53).
- Collaborative development through open educational resources among universities to offer high quality learning programmes and resources.
- Support a variety of higher education learning options, particularly those that target employability skills.
- Establish shared multipurpose student support centres with a shift away from the face-to-face approach to technology-based support.

In 2014, a global dialogue on the future of international education was organized by the *International Education Association of South Africa.* Talk centred around finding new ways to enhance quality and diversity in adult learning, with the emphasis on collaboration between institutions. The *Nelson Mandela Bay Global Dialogue Declaration* was signed by key international educational associations that were globally devoted to quality, diversity, internationalization of curriculums and related outcomes, and a commitment to equal and ethical higher education partnerships and the sharing of good practices (De Wit, 2016:17).

3.4.3 Delivery systems: Institutional partnerships and sharing good practices

21st century knowledge acquisition is dependent on new ways of producing knowledge, and higher education has become a product in a global marketplace. Development will occur where the creation and authentication of knowledge is stimulated. Rapid technological progress demands a much-needed re-examination of the higher education environment (Teekens, 2016:32). It is evident that countries and institutions that develop and promote high quality technology learning approaches will prosper in a competitive global higher education market (Hudzik, 2016:26). Blended learning systems have the potential to increase access, improve cost effectiveness and be demand driven. Institutions that engage internationally – particularly through cross-border and inter-institutional partnerships – offer opportunities to reinforce

research and academic capacity and influence programme content and pedagogy of teaching and learning (Hudzik, 2016:27).

The International Association of Universities (IAU) focuses on global university networks and has a membership of 180 nations, and encourages the globalization of higher education practices. As part of the United Nations Educational, Scientific, and Cultural Organisation (UNESCO) based, the IAU's mission statement promotes collective global academic values, a general standard of operation and promotion of global cooperation, and sharing of good practices to narrow inequalities between nations and academic systems (Spring, 2016:114). Although higher education institutions are seen as universal and international, they are not yet global; and Altbach (as cited in Spring, 2016:115) postulates that, where inequalities exist, there will be no globalized system of higher education.

A global university described by Spring (2016:116) entails more than drawing foreign students and setting up international branch campuses. According to Spanier, who is supported by Thomas (as cited in Spring, 2016:116), a global university should have educational leaders who are involved in international networks, are teaching and learning internationalized curricula from a global perspective, and have institutions participate in cooperative global research using technology to enhance global learning. The Worldwide Universities Network (WUN) consists of sixteen universities located in the United States, Great Britain, Australia, Canada, China, Norway and the Netherlands, and have the global goal of advancing knowledge and skills related to topics of global concern through collaboration, partnerships and sharing good practices by using modern technology to develop e-learning platforms and facilitate online seminars between institutions to promote virtual teaching and learning.

A forum of university leaders known as Universitas 21: The International Network of Higher Education is described as the 'leading global network of research universities for the 21st century' (*http://www.universitas21.com/*; Spring, 2016:117) and includes universities in Australia, Canada, Chile, China/Hong Kong, India, Ireland, Japan, Mexico, New Zealand, Singapore, South Africa, South Korea, Switzerland, Sweden, the Netherlands, United Kingdom and United States. These universities share online programmes, collaborate in cross-institutional projects from a global perspective, engage virtually to share ideas, enhance knowledge development and build network connections, offer graduate fellowship for Universitas 21 graduates, advance interdisciplinary conferences that provide graduates with an opportunity to improve skills relevant to their research and career development, and provide

various technology-enhanced educational innovation programmes. Students all study internationalized curricula of global faculties locally through the use of technology (Spring, 2016:117). This allows for intercultural and global dimensions to be incorporated in subject matter, learning outcomes, assessments, teaching methods and student support services, to allow participation as global citizens. The impact of mobility and employability versus non-mobility of students, implies that faculty, cross-border and inter-institutional partnerships are set to become more distinct as institutions become more universally engaged due to the development of global higher education (Hudzik, 2016:27; Jones *et al.*, 2016:3; De Wit, 2016:17).

Much focus has been placed on the process of mobility (virtually and actually) and internationalization in terms of policies, curricula, input models and pedagogy; with less research on student outcomes and the effect on employment when a globalized curriculum is being studied locally (Jones, 2016:107; De Wit, 2016:17). However, according to Jones (2016:107-108), increased evidence indicates that globalized learning is sustainable and has the potential to develop employability skills no longer limited to location, particularly when living in the 21st century. The development of sustainability in higher education to serve private and public interests is discussed next.

3.4.4 Sustainability development: Educational progress for public and private good

Musil, as cited in Van Schalkwyk, Herman and Müller (2013:96) accepts that higher education has the potential to deliver both private and public good, since students obtain particular benefits that are also instrumental in society. Greig (2015:28) further argues that educating students for public good necessitates an adjustment towards sustainability of the curricula, pedagogies, policies, and institutional structures. The landscape of higher education is changing the world over, and it is in specific interest of institutions to re-examine and realign their role to produce graduates with a set of qualities conducive to the public good.

Owing to an understanding of institutional silence and established traditions, progress towards educational changes and the prospect of sustainability has been slow (Corcoran, as cited in Greig, 2015:28). Van Schalkwyk *et al.* (2013:97) endorse developing graduate qualities for employability as part of the teaching-learning environment, as it leads to a shared understanding of which qualities are sustainable and need to be developed during the course of students' studies. 'Education for sustainability is transformative education' (Sibbel, 2014:17) and for transformative education, collaboration and critical engagement with others, as well as

challenging existing views to creating new knowledge, is essential. Online learning technologies have the potential to offer various communication pathways with many interfaces for participation, assessment and the construction of new knowledge. The way these online networks are structured could influence whether participation leads to transformative learning (Sibbel, 2014:18). Successful development of specific skills for sustainability through virtual collaboration rests in its organizational model and in continuous innovative thought towards advancing the student, the institution, and the public good (De Kraker & Córvers, 2014:118).

Dryson and Taylor (2015:637) emphasize the link between employability, future graduate employment and the development of sustainability, and expect skills in sustainability development to be crucially significant for future employment. Although widely implemented, technology learning does not merely involve taking a course, putting it on a computer and assigning a collective task to a virtual group of students – assuming that interaction will occur automatically because the learning environment allows it (Van Tonder, 2015:27). It is the creation of a social space characterized by respect, trust, unity, a shared sense of belonging, and association (De Kraker & Córvers, 2014:123). Educational development and progress, according to Botman (2013: xiii), reinforces the benefits students acquire from higher education which can potentially be useful beyond private good, extending into public good; and therefore higher education institutions should be explicit about their purpose and strategies in best creating returns on private and public investment (Gladstone-Millar, Labib, Tonge & Smith, 2012:210). The next section covers institutional governance and management: a meso-level approach.

3.5 INSTITUTIONAL GOVERNANCE AND MANAGEMENT: A MESO-LEVEL APPROACH

Gladstone-Millar *et al.* (2012:210) explain the diverse responsibilities higher education institutions need to fulfil and respond to on meso-level. The increasing demands from governments and societies – locally, nationally and globally – that are trying to keep up with changes in employability trends, student expectations, technological developments and more is no easy task considering the emergence of the 21st century mindset over recent years. Millennials (born around 1980, 1990 and the early 2000s) who grew up with technology have different expectations of learning and, according to Quinton (2012:72), are the most innovative utilizers of technology and are next generation self-directed students that influence how institutions need to be governed and managed. Today's adult students are overloaded with

instant information accessible from a variety of sources. Not only are they capable of using diverse sources to communicate directly with their peers regardless of geographical boundaries, they are constantly engaged in interactive communications wherever, whenever (Faulkner & Latham, 2016:137; Quinton, 2012:73).

The biggest challenge for institutional management, according to Ross (2014:180), is not technological challenges, but changing an academic culture and managing those changes. The Western Interstate Commission for Higher Education in the US annually conducts a survey regarding teaching and learning with technology, and reports on the significant growth in enrolments and increased investments in teaching and learning with technology. However, according to these reports, almost three quarters of participants identified resistance to teaching with technology as a challenge for academic growth and success (Ross, 2014:180). The increasing pace of technology learning is forcing institutional managers to rethink and re-evaluate their academic designs beyond those directly involved and responsible for teaching and learning, but sufficient knowledge and support are critical to adapting to new realities (Korka, 2016:90; Ross, 2014:183). The pressure for educational governance and management to become more business-like (Lee, 2014:18), and thus increase the focus on flexible, original, experimental, dynamic, customer-centred, unambiguous and strategic development (Whitty, Power & Halpin, as cited in Lee, 2014:19), is dominating educational revision on a global level.

It is further evident that top-performing educational institutions depend on innovative and flexible management principles to successfully balance their academic component with institutional governance. The governing bodies of many educational institutions mainly consist of academics who are experts in their respective disciplines, but lack business acumen so essential for meaningful decision-making in terms of financial matters, entrepreneurship, forming partnerships, and arranging commercial contracts that affect institutional sustainability (Korka, 2016:95). Private provision of higher education has increased the world over (Korka, 2016:90; Lee, 2014:24; Hicks, 2014:272), with newcomers to the sector being operated as businesses with a strong customer focus. This should encourage an increased emphasis on quality assurance in the publicly funded higher education sector to ensure a competitive advantage in a competitive market. According to Treacy and Wiersema, as cited in Korka (2016:92), the three main governing advantages that affirm competitive benefits for any business and should be easily included in the higher education sector, are ‘product leadership, operational excellence and customer confidence’. Product leadership includes aspects of

academic design, delivery and quality assurance; operational excellence involves assessments and evaluation of learning and programme outcomes; and customer confidence contains student, academic, staff, and administration support (Korka, 2016:92). These are all discussed in the following sections.

3.5.1 Academic support: Tutor training, development, support and evaluation

Youth unemployment and skills mismatch have emphasized the quality of pre and in-service training of teaching staff and the quality of teacher training systems in many countries. Axmann, Rhoades and Nordstrum (2015: xiii) argue that acceptably equipped, skilled students – through the availability and usage of appropriate skills development programmes – are reliant on the quality of its teaching staff. The higher students' expectations of 21st century learning, the more urgent the need for tutor training, development, support and evaluation to meet current and future challenges when using technology to teach.

Not only are we moving into an era where academic teaching staff need particular levels of technological competencies, but tutors need to be adequately trained, motivated and supported when teaching with technology (Van Tonder, 2015:109; Axmann *et al.*, 2015:17; World Economic Forum, 2015:8). Where training and development of tutors are expanded (Hicks, 2014:267) Axmann *et al.* (2015:17) propose more flexible and innovative teaching strategies. Drawing from Faulkner and Latham's (2016:137) research, there is an admission that tutors need to have a different skills and mindset, and unlearn much of the routine skills no longer relevant when operating in a knowledge economy of information and communication. Dweck, as cited in Faulkner and Latham (2016:138), distinguishes an open mind with creativity, flexibility and problem-solving qualities from having preconceived intentions of what teaching presents. Van Tonder (2015:109; Axmann *et al.*, 2015:18) makes it clear that a different set of skills are needed when teaching with technology. A broader set of criteria is proposed for the selection of teaching staff for pre and in-service learning. Curious tutors who are creative thinkers and problem-solvers and possess the ability to enhance those qualities in their students are the stuff of dreams for todays' students (Faulkner & Latham, 2016:147).

When using technology to teach, the tutor becomes the facilitator of activities that coach, mediate, prompt and assist students in developing and assessing their understanding and learning (Van Tonder, 2015:60; Axmann *et al.*, 2015:18). Students expect more collaborative techniques when they use technology to interact and Hicks (2014:269), who is supported by Ke and Zhu (2013:368), underlines the need for assistance from management in providing

training and development opportunities for tutors, particularly with the increased popularity of technological modes of delivery. Although the need and support for models to address these issues are acknowledged, further investigation into designing such models and frameworks and the impact on learning outcomes is justified (Hicks, 2014:272). Another support system for tutors is the use of online discussion forums and platforms, which have the potential to improve academic and professional development. Axmann *et al.* (2015:20) propose local, national, and global knowledge-sharing networks between tutors to allow professional collaboration, exchange, sharing of good practices, and the resolution of common challenges. The same authors further envisage that creating networks of collaborative teaching experts might increase the recruitment and retention possibilities for teaching staff.

The main purpose of evaluating how teaching with technology impacts on learning outcomes, is to improve teaching and learning. Different instruments are available to evaluate tutor effectiveness and teaching outcomes. Van Tonder (2015:110) describes a method called the critical friend review option, which is used among tutors who comment and have virtual access to each other's classes, announcements, discussions and general participation. Other measures taken by institutional management is to evaluate tutors' effectiveness through employer involvement where employers give feedback in terms of student success during internships or through formal processes of regular programme evaluations with remedial actions if necessary (Van Tonder, 2015:111). However, teaching behaviours are complex and one of the most challenging aspects to evaluate in a technology learning environment. Another manner of tutor evaluation is through student evaluation at the end of a programme or academic year, although there is little evidence that these evaluations accurately reflect effective teaching, regardless the possibility of tracking usage, time spent on tasks, feedback to students, and more. Kearsley (2013:428) could find no correlation between actual time tutors spent online and student evaluation ratings. Successful evaluation of teaching with technology is furthermore affected by students' preferred learning styles, which influences the learning experience (Collins, as cited in Van Tonder, 2015:39). Just as students learn differently and experience learning in different ways they differ in the support they require, which is discussed next.

3.5.2 Student support: Career advice services, counselling and technical support

A key element identified in the need to improve graduate outcomes and output, is the provision and strengthening of student support services for students to enable informed career decision-making for 21st century careers (South Africa. Department of Higher Education and Training,

2015:8; South Africa. Council on Higher Education, 2013:155). Besides academic support, sound curricula, good teaching and appropriate assessment, student support could be perceived as the primary goal in assisting students to achieve their highest academic and personal potential (Valentine, 2017:3; Schreiber, 2014:24; South Africa. Council on Higher Education, 2013:167). An admission by the South African Council on Higher Education (2014:45) and the Department of Higher Education and Training (2015:9) on the poor preparedness of students upon entering higher education, particularly in South Africa, calls for educational opportunity and learning environments that provide appropriate levels of career advice and counselling in pursuing future employment.

One of the key findings the British Council (2015:10) arrived at after conducting research in sub-Saharan Africa, was that students who could most benefit from career advice and counselling could not access it, were unaware, experienced clashes with academic timetables, or did not realize the value of career services available to them for future employment. Those who utilized the service indicated the benefits, although less than 51 percent of students thought that career counselling and advice was supportive and informative. Career advice services are often tasked to link students with potential employees, provide opportunities for internships and work placement, and assist with employment seeking skills such as résumé writing and interview skills. Compared to sub-Saharan Africa, some European countries are explicit about their inclusion of career advice and counselling in their student support services (Schreiber, 2014:13). The results of three different studies done between 2008 and 2013 in South Africa, one at the University of Pretoria, reported that 69 percent of students who terminated their studies never made use of student support services (Speckman, 2014:132).

Technology-enhanced classrooms at some institutions offer online student support services that form part of the formal curriculum; these include library, career advice, counselling, administrative, technical and peer-to-peer support services which are particularly vital for remote students (Brindley, 2014:287). Of course, this is extremely dependent on the availability and stability of networks. Students in technology-assisted environments receive emotionally and socially supported individual attention that goes beyond academic care; this, as opposed to traditional environments where they may feel lost in larger settings (The Foundation for Blended and Online Learning, 2017:12; South Africa. Council on Higher Education, 2014:4; South Africa. Department of Higher Education and Training, 2014:17). These findings are echoed by Van Tonder's research (2015:120), where participants commended individual

attention beyond academic support and described tutors as ‘your own personal cheerleader’ and ‘mentor’. Good student support services positively correlate with higher levels of student retention and student satisfaction (Brindley, 2014:295), particularly when measures such as having a welcome video for students at the beginning of a subject, availability of tutors for individual meetings on specific days, and electronic and telephonic presence with acceptable response times during the week and over weekends to meet the needs of students, are available (Van Tonder, 2015:110). During the 2nd National Higher Education Summit in 2015, the South African Union of Students (2015:6) highlighted the improved quality of student services as one area of transformation in the South African higher education environment, stating that the quality of student services can either contribute or compromise the quality of student life. They further discussed quality assurance and the role of higher education in preparing the youth of South Africa and the world for 21st century challenges (South African Union of Students, 2015:4).

3.5.3 Quality assurance: Accreditation, certification, standards and student retention

The British Council (2015:11) explains that the success of a higher education institution is largely dependent on its reputation, as quality and prestige often go together. Brennan and Shah (as cited in Hall, Comielse, Moore & Shay, 2001:2) that the greatest concern for any institution is their public standing and how it is perceived and benchmarked locally, nationally and globally. Traditionally in South Africa, quality assurance systems have been driven by institutional self-improvement and accountability through specific admission policies, recruitment and selection processes of teaching staff and students, and research and scholarly achievements. However, Baijnath (2016: ix), supported by Webbstock (2016:5), holds that, after two decades of democracy, much has been achieved in the higher education sector in South Africa. As an established quality and advisory body in South Africa, the Higher Education Quality Committee (HEQC) found that the sector is now more integrated in terms of ‘governance arrangements, quality assurance processes, qualification types, funding arrangements and enrolment planning processes’. The key purpose of the HEQC is to conduct quality audits at public and some private educational institutions to determine ‘fitness for purpose’ in terms of institutionalization of a quality culture, accreditation of new programmes, and ensuring that minimum standards across the system are met (South Africa. Council on Higher Education, 2016:30).

However, according to the British Council (2015:1), the higher education sector in sub-Saharan Africa is facing a crisis as quality in higher education is declining, student retention is low, and graduates are poorly equipped for a job market that is already congested due to systems that were allowed to expand without keeping track of corresponding resources. Countries that attended the World Economic Forum's Vision 2030 event (2015:iv) for quality higher education committed to the provision of flexible learning opportunities that included accreditation, validation and recognition of qualifications, and skills and competencies outside formal traditional delivery, also highlighting the role of government in setting and regulating standards and measures to ensure strong policy frameworks for sustainable education, quality delivery, and to maintain and improve student retention rates (World Economic Forum, 2015:9).

In the context of technology-enhanced learning, quality assurance – as defined by Harvey and Green (cited in Latchem, 2014:313) – should surpass 'fitness for purpose' and be defined as 'exceptional', with 'zero defects', value for money, and 'transformative'. With the amount of time and effort spent on the advancement of technology learning, national governments, policymakers, researchers, planners and institutional management should be able to indicate that quality assurance in technology learning is as good as or even better than quality assurance policies found in traditional delivery (Latchem, 2014:313; South Africa. Council on Higher Education, 2014:87). The topic is not without contention, as some argue that the same criteria that regulates accreditation, certification and standards in the traditional classroom, should apply to the technology classroom; others debate that technology learning centres are too distant, that teaching, design and assessment are carried out by different people, that there is limited interaction between tutors and students (although the lack of personal engagement and student contact in face-to-face delivery are among the top ten reasons given by students for why they left university (Cook, 2012:26)). Because communications are mainly text-based, participants' activities are more open for analysis and investigation, which calls for a different quality assessment arrangement (Latchem, 2014:316; South Africa. Council on Higher Education, 2014:70-72).

Quality assurance boards place much emphasis on measurable input strategies such as library provision, staff components, funding, infrastructure, instructional design and student retention rates compared to output strategies such as employability strategies for students, long-term significance, the effect on the economy, and the benefits to society as a whole (Latchem,

2014:314). Chalmers and Johnson, as cited in Latchem (2014:335), observe that quality assurance should not merely be compulsory, external, and cognisant of liability, but intentional and considerate when expanding and cultivating quality habits and values. Quality outcomes and evaluation of learning and programmes is gaining much attention at different levels, which is discussed next.

3.5.4 Assessment: Evaluation of learning and programme outcomes

The benefits of clear expression, evaluation and evidence of learning outcomes have multiple advantages. Adamson *et al.,* as cited in Latchem (2014:332) and supported by Deardorff (2016:84), state that explicit statements and evidence of learning outcomes produce more transparent and indisputable education to students; it assists employers with a better understanding of the knowledge, skills and competencies expected of prospective employees; and it has comparability features to differentiate between qualifications.

Walvoord, as cited in Deardorff (2016:84), calls assessment a 'powerful instrument for improvement' and 'potentially the best lever for change' although it is not always well planned, implemented successfully or driven to reach quality results. The Organization for Economic Cooperation and Development (OECD), as cited in Latchem (2014:332), has conducted an outcomes-based feasibility study to assess higher education learning outcomes – particularly to assist institutions with their assessment and improvement of teaching, to support students with choices when selecting institutions, assist policymakers with financial governance, and contribute to ensuring that graduates' employability skills match employer needs. These findings were acknowledged as beneficial and workable for measuring learning outcomes in the future; however, no formal study has been conducted regardless of institutions' failure to measure learning outcomes in an adequate way (Deardorff, 2016:83; Van Tonder, 2015:37).

With the number of stakeholders and the amount of interest in higher education accountability, public scrutiny is fiercer than ever before. With higher education accountability growing in popularity, many institutions find that their standard processes and procedures are insufficient, and lack a continuous process of improvement. Assessing learning outcomes is one aspect of evaluating the overall quality of programmes, but it is rarely done – either in learning with technology or traditionally (Deardorff, 2016:83; Van Tonder, 2015:37). The value of evaluating learning and programme outcomes has different meanings to different stakeholders. Deardorff (2016:84), supported by Cook (2012:21,27), claims that assessment outcomes for institutional management is the 'evidence for accountability to stakeholders' and for promoting

the feasibility of programmes for funding purposes. For tutors, assessment outcomes are there to improve meaningful teaching and learning; for students, assessment outcomes relate to the completion of a qualification and gaining knowledge and skills for future employment; and for employers, it might be about employee recruitment, selection and placement. Ultimately, the emphasis of evaluation and assessment of learning and programme outcomes is on the student. Yet, students are not always provided with their assessment data, which would be beneficial for their own continued progress and learning (Deardorff, 2016:83), and is expressed as 'feedback drives learning' (Simpson, 2012:181). It is further evident that a passing or failing grade in a programme does not necessarily measure learning, as it may not correlate with the planned learning outcome (Kearsley, 2013:429).

There are many interactive, innovative and cost-effective ways of using technology in the evaluation of learning and programme assessments, as institutional management and external assessors have access to students' and tutors' learning platforms, which are demand-driven and have immediate remedial possibilities. User platforms can be accessed to determine the time spent online, the content accessed, feedback provided, and how often the platform is accessed. This data provides valuable cues to institutions, tutors and students in terms of quality (Van Tonder, 2015:8). Technology assessment methods include online quizzes, computer-marked assessments, polling, discussion forums, weekly assignments, and research papers. Weekly progress reports with findings and recommendations are instantly available and throughout the learning process institutional management, assessors, students and donors have tracking access to evaluate involvement, review competency, and implement corrective action.

All these methods, when effectively implemented, provide valuable feedback with far more sophisticated and advanced learning analytics than is possible in the traditional classroom. However, regardless the medium of instruction, the learning outcomes are vital for learning success (Van Tonder, 2015:111; Simpson, 2012:190). With the development of new learning techniques, evaluation and assessment of both learning success and overall programme outcomes takes on added importance to assist in curriculum development, delivery, pedagogy, evaluation of educational processes in general, student support, cost effectiveness, technology decisions and institutional commitment (Irele, 2013:496).

3.5.5 Staffing and administration: Resources and support

Institutional commitment to leadership and planning for technology also points to staff capabilities when working in new learning environments. Where learning with technology has

been successfully implemented, much focus has been placed on staffing development and support; also ensuring availability of sufficient resources, infrastructure, technical expertise, effective distribution and maintenance of documentation, and advanced educational technologies (Johnson, *et al.*, 2016:6). Institutional support and knowledge of what is required and the realization of the opportunities' technology could offer to include staffing development, assist in the process of change, address fears and anxieties and more, is vital in new learning environments (Cornescu & Adam, 2016:383; Quinsee, 2012:118-119).

Institutional change often transpires with some form of uncertainty. Cornescu and Adam (2016:381) consider institutional change in a competitive market essential to progress, particularly in this era of rapid technological advancement. Difficulties in convincing administrative and academic staff of the benefits of technology, a slow pace of implementation, and the absence of constructive changes are often challenges to new learning approaches. Feelings of intimidation and/or lack of a shared vision when teaching and learning with technology, has the potential to restrict institutional development; a strategic plan of action and the support of knowledgeable key role-players are essential (Cornescu & Adam, 2016:383; Berge, 2013:616). Improving the sharing of information and communication, staffing involvement, participation, assistance, and support could help to cultivate optimism towards change (Cornescu & Adam, 2016:385). For effective administrative delivery, highly efficient information systems and support should be implemented, maintained, and managed by adequately trained technical staff which, in turn, affects the outcomes of instructional applications. The benefits of technology tools for administrative purposes allow for paperless and easy administration as databases, accurate information flow, record keeping, reports and communication are available online.

For instructional applications, tutors require pedagogically and administratively appropriate software to manage curriculums, assignments, discussion forums, and grade books (Van Tonder, 2015:115; Picciano, 2011:231). Although instructional applications differ from administrative applications in the sense of utilization, supportive structures are equally vital for favourable learning outcomes. However, Van Tonder (2015:44) emphasizes the need for institutional management to understand that pedagogy, not technology, should remain the focus and that technology serves as an 'enabler, not an end in itself' (Quinsee, 2012:118). Teaching and learning in blended learning environments are next discussed in terms of a micro-level approach.

3.6 TEACHING AND LEARNING IN BLENDED LEARNING ENVIRONMENTS: A MICRO-LEVEL APPROACH

Blended learning offers tutors an opportunity to digitally train knowledge workers for the 21st century workplace (Lane, 2016:47; Tandoh *et al.*, 2014:18) and offer students an opportunity to obtain exposure related to the workplace. There is no generally accepted definition for blended learning besides the combination of face-to-face and web-based approaches for teaching and learning, which further accommodates numerous conditions for learning that allows individual to participative, tutor-directed to student-led approaches in a traditional classroom or any other setting (ICEF, 2015:1; Sibbel, 2014:18). Drawing from best practices in online and face-to-face learning, the expansion of blended learning is 'moving to centre stage in higher education' (ICEF, 2015:1).

The growth and benefits of blended learning approaches in higher education are starting to outperform pure online or traditional learning approaches (Johnson *et al.,* 2016:18; Johnson e*t al.,* 2015:16). Effective teaching and learning in blended environments necessitate relevant teaching and learning approaches with well-defined learning outcomes, including relevant subject matter delivered by suitable, professionally qualified and motivated tutors that apply student-centred, active and collaborative pedagogical approaches which is supported by relevant technology tools and infrastructure to meet the needs of all students (World Economic Forum, 2015:8; Rose, 2014:4; Rabbit, 2013:1). Access to quality technology learning with the necessary infrastructure creates the possibility to provide learning at home away from a physical classroom, in remote areas across geographical barriers (World Economic Forum, 2015:19). Blended teaching and learning include flexible, active and more engaging tools and approaches to enhance skills development, values, attitudes and knowledge that enable adult students to make informed decisions and respond to local and global challenges (Johnson *et al.,* 2016:12; Spring, 2015:97; World Economic Forum, 2015:10). Seen as a student-centred approach that highlights social collaboration with others, blended learning requires active engagement in the learning environment as essential for achieving learning success for both tutor and student, and offers opportunities to tailor learning experiences to meet individual needs.

Blended learning fosters highly individualized learning that allows tutor presence and participation for constructive feedback and focus on instant corrective action and assistance. Tracking students' technology platforms can display how students' actions contribute to their

progress and generate useful data about student success, enabling tutors and technology developers to refine and enhance learning environments and resources (Johnson *et al.,* 2016:16). This is beneficial for students, as remedial action is immediate and not extended until formal assessment (Rose, 2014:5) which might lead to student dropouts or early eliminations.

It is evident that, in regard to flexibility and student achievement, blended learning environments outperform fully online or pure face-to-face instruction, yet the most effective blended learning model requires exploration and investigation (Johnson *et al.,* 2016:18; ICEF, 2015:1; Van Tonder, 2015:143). Institutions in the United States of America acknowledge the capabilities of blended approaches to enhance traditional learning by means of social technologies and rich media, and according to Adams, Becker, Cummins, Davis, Freeman, Hall Giesinger and Ananthanarayanan (2017:18-19), educational leaders and stakeholders globally are in the process of incorporating blended designs into their vision and mission statements as part of their long-term development plans. For most educational leaders, according to Davies, Mullan and Feldman (2017:10), the question is not whether to advance technology learning, but how and where to venture for optimum results as the impact of technology-supported learning on improved learning outcomes and analytics, cost effectiveness, retention rates, and student support is enough reason to rationalize investments and efforts required.

The National Centre for Academic Transformation (NCAT) in America conducted a fifteen-year study during which they analysed 156 projects on technology-supported learning and found that all but three projects showed a reduction of thirty-one percent in delivery costs, with the lowest saving four percent and the highest eighty-one percent (Davies *et al.,* 2017:25). According to Hennessy (as cited in Davies *et al.,* 2017:26) the former President of Stanford University held that blended learning could reduce the cost of learning by fifteen percent, and in a recent evaluation done by the University of Maryland, instructional redesign saved up to US$7,5 million which could be used for other ventures. Instructional design and technology learning has the ability to influence learning outcomes and save costs; however, any changes to delivery should be driven by pedagogical consideration (Van Der Merwe, Bozalek, Ivala, Nagel, Peté & Vanker, 2015:11).

3.6.1 Instructional design: Curriculum and programme development

If higher education institutions are set to deliver graduates equipped with skills for the 21st century workforce, instructional design and development should be considered accordingly. Obtaining a degree and being unemployed is one thing, but being unemployable is another; it

is the responsibility of curriculum designers and programme developers to ensure cohesion between graduateness and employability (Holtzhausen, 2012:185). Constant changes and the shift to a high-skilled economy, as in the case of South Africa (Bhorat, Cassim & Tseng as cited in Allais, 2017:153) call for adequate and current employability skills to be incorporated in curriculum and programme development, particularly where graduates might have obtained a qualification but are unemployable. Holtzhausen (2012:186) emphasizes the development and creation of curriculum that is student-centred, transformative, and diverse, with a distinct focus on skills development leading to employability.

Incorporating technology into learning and skills development requires that curriculum and programme designers establish how technology will be used to facilitate learning. Ertmer, Parisio and Wardak (2013:8) discuss different factors influencing instructional design at macro, meso, and microlevel to achieve specific learning and development outcomes. Continuous quantitative and qualitative feedback enable instructional designers to reflect and respond appropriately. One of the most important factors to consider is what impact curriculum design will have on students, as it will influence their actions and approaches to learning (Ertmer *et al.*, 2013:12). Meyers and Nulty, as cited in Holtzhausen (2012:196) and supported by Hozien (2014:394-395) explain curriculum design towards employability as incorporating:

- An authentic, relevant curriculum that relates to the student's real-life experiences.
- A curriculum that is constructive, sequential and interconnected.
- A curriculum that makes provision for higher order thinking processes.
- Learning that is aligned with specific learning outcomes.
- Ensuring the presence of some form of challenge, interest and motivation to learn.

A technology learning platform with easy navigation (Van Der Merwe e*t al.*, 2015:11) that allows students to progress through materials at their own pace and reflect or repeat where needed, is suggested. Reflective skills enable students to prepare for the work environment and to perform more effectively in the workplace (Holtzhausen, 2012:197). Van Der Merwe *et al.* (2015:11) emphasize that instructional design for blended learning should start with learning outcomes that should be aligned with learning activities, content and assessment to ensure internal consistency and transparency. Some educational institutions are hesitant to use technology to teach and assess 21st century skills that are seen as high order, complex, and multi-faceted – despite the dynamic tools, resources and collaboration opportunities that allow for collection of valuable information not always available through traditional approaches

(Griffen, Bui & Care, 2013:56). A key element when learning with technology is social collaboration. Students participate as members of a group where they socially interact, share knowledge, experience, and expertise and participate in collaborative problem solving (Van Tonder, 2015:17; Griffin *et al.*, 2013:57), which is discussed next.

3.6.2 Interaction and communication: Learning communities

For adults, learning occurs through shared knowledge applicable and transferable to their real life situations. Adults need to apply what is learnt and feel that their learning is authentic to their actual lives (Farmer, as cited in Van Tonder, 2015:18). Virtual learning spaces, where 'like-minded groups of people share goals or special occasions' (Conrad, 2014:384) and where learning is less structured compared to traditional learning spaces, demand more collaboration and interaction between student and tutor, and the dynamic interaction and communication offers potential for deep and meaningful learning (Henrich & Sieber as cited in Van Tonder, 2015:42; Conrad, 2014:384). Social collaboration – where learning and thinking is collective and shared and connected to conceptual change and a deep understanding that accommodates employability skills such as critical thinking, problem-solving, and innovative and creative learning – allows students to be responsive and versatile in a diverse and changing world of work (Paciotti, 2013:109; Kalantzis & Cope, 2012:25).

As the need for technology development and communication in education increases, the need to research those developments for education and training will remain. According to Conrad (2014:390) there is no evidence to suggest that pedagogical support of and interest in interaction and communication is anything but blooming, especially when considering the amount of literature published to date. Interaction between student and student, student and content, and student and tutor is evident in the use of communication tools that allow students to share, have discussions, give presentations, upload visuals and data, and have private conversations (Van Tonder, 2015:42; Conrad, 2014:389). Hozien (2014:389) postulates that constructing meaning out of complex topics requires more engagement than what is possible in the traditional classroom.

The value of online learning communities for both student and tutor is the potential to guide discussion and interaction often beyond the formal learning environment, providing a cooperative atmosphere where students feel safe and fee to express opinions and interact with others (Garrison & Anderson as cited in Conrad, 2014:386; Hozien, 2014:392). Tutor presence in learning communities plays an important part in arranging activities and setting the climate

for the development of social and cognitive presence for the purpose of critical reflection and interaction (Shea, as cited in Hozien, 2014:392) where students 'make their thinking visible'. Garrison, Anderson and Archer, as cited in Hozien (2014:393) originally developed the 'Community of Inquiry' (CoI) model as a framework for online learning. It integrates the constructs of cognitive, social and teaching presence to guide meaningful learning which was later applied by Garrison and Vaughan (as cited in Hozien, 2014:393) to blended learning approaches. In a study conducted by Ausburn (as cited in Akyol & Garrison, 2010:62), programme design and tutor presence, which included frequent communication and feedback, were ranked highly in adult learning with the use of technology. The blended learning approach, according to Conrad (2014:388) and supported by Hozien (2014:389), reinforces 21st century innovation and future potential in defining community, presence and flexibility of time and space.

By using a technological platform to socially collaborate, students are enabled to create knowledge collaboratively by adding to each other's ideas and by integrating those ideas, which enhances a cognitive presence for the purposes of higher levels of learning. Students work more effectively and are more motivated if they can identify with and belong to a group, are respected, and trust one another (Akyol & Garrison, 2010:63). However, despite the positive learning experiences expressed by students and tutors, not everyone acknowledges the opportunities that communication and interaction offer in learning communities. In a study done by Van Tonder (2015:118-119), students expressed student inferiority, lack of interest in discussion forums, forced topic discussions or poorly chosen topics, lack of tutor availability when needed, and generic and clinical feedback. Tutors expressed the lack of physical interaction with students (Van Tonder, 2015:110), low numbers of students, and the fact that it is always the same students that interact as challenging (Van Tonder, 2015:119). This is supported by Hozien (2014:405), who found that users of technology-enhanced learning complained about poor teaching skills, lack of orientation and training regarding the use of technology, online discussion forums, delayed and/or lack of feedback from tutors, poor quality work and submissions from students, and the absence of human touch. It is therefore necessary to emphasize that, when using technology-enhanced learning, a different kind of student and tutor is anticipated (Van Tonder, 2015:137). This places higher demands on instructional design support, purposeful interaction and collaboration for all involved, and emphasizes that a one-for-all learning approach is not well-suited for adult learning (Van Tonder, 2015:144).

Students' and tutors' capabilities, personalities, expectations, and teaching and learning styles have an impact on the quality of teaching and learning, which is discussed next.

3.6.3 Individual attributes: Teaching and learning

Digital connections and other technologies have drastically changed the course of information flow and processing (Van Tonder, 2015:87). For improved teaching and learning outcomes in blended environments, individuality is essential and should be acknowledged. Tutors and students have characteristic ways in which they prefer to deliver and receive information (Van Tonder, 2015:77; Rabbit, 2013:2; Nienaber, 2012:452). James and Galbraith (as cited in Knowles *et al*., 2012:211) expanded the traditional dimensions of cognitive, affective and physiological categories of receiving and delivering information to include print, auditory, interactive, visual, tactile, kinaesthetic, and olfactory preferences in assimilating information. When traditional learning environments are transformed into blended spaces, tutors should be sensitive to accommodating multisensory preferences in their teaching and learning designs (Knowles *et al*., 2012:211). Different tutors and students bring different preferences, aspirations and resources to the learning situation by reason of cognitive abilities, personalities, cultural attitudes and experiences (Beetham & Sharpe, 2013:36). There is no doubt that tutors and students can benefit in their own teaching and learning processes when differences are recognized and developed (Beetham & Sharpe, 2013:38; Nienaber, 2012:455).

In acknowledging the importance of human innovation in teaching and learning, Rabbit (2013:2) postulates that little attention is paid to tutor competencies and human capital systems when new teaching and learning approaches are introduced, as the central focus is largely on institutional structures and organization. In addition, Nienaber (2012:452) holds that it is important for tutors to balance their teaching strategies with students' learning approaches to advance both graduateness and knowledge creation. Many of the same kind of learning activities tutors are exposed to in traditional learning spaces are also evident in blended learning environments, regardless the diverse tasks taken over by technology. This leaves tutors with more time for corrective action, implementing more advanced pedagogies, and increasing collaborative efforts between tutors (Van Tonder, 2015:109; Rabbit, 2013:3). Yet a different set of skills and management competencies are required in technology learning spaces (Van Tonder, 2015:109, as supported by Naroozi & Haghi, 2013:83; Rabbit, 2013:4). Tutors in blended learning spaces need to be innovative, flexible, technologically skilled, well able to manage their time, organized, emotionally intelligent, and team players. Sharing of best

practices when using technology for both teaching and learning accelerates student performance (Naroozi & Haghi, 2013:84).

Tutors and curriculum specialists have to design learning experiences that include a variety of learning approaches (Nienaber, 2012:455). Exposing tutors and students to a variety of learning approaches not only compliments their preferred learning approach, but strengthens their secondary approaches, which contributes to the workplace, profession and society (Nienaber, 2012:452). Teaching with technology allows for valuable insights to be gleaned by tracking students' technology platforms. Evidence on knowledge creation, challenges and difficulties they experience, whether learning activities such as discussion forums, videos, graphs, and exercises are utilized, and which activities the student experiences as complicated (Van Tonder, 2015:88). Furthermore, insights gained from students' behaviour when using technology platforms can be applied to identify learning styles, cognitive abilities, affective state, and more (Graf, Lin, Kinshuk & McGreal, as cited in Van Tonder, 2015:88).

Despite criticism and a lack of consensus on the elements that determine learning styles, research has shown that teaching according to learning styles and encouraging the development of learning styles lead to success (Van Tonder, 2015:87; Nienaber, 2012:454). Regardless of preferences in terms of print, visual, auditory, interactive or kinaesthetic elements in learning, different teaching and learning styles can be simultaneously accommodated when using technology platforms (Van Tonder, 2015:114). This is optimal for the development of employability and is discussed in the next section.

3.7 EMPLOYABILITY SKILLS DEVELOPMENT IN A DIGITAL AGE

Acquiring and developing employability skills in a digital age aims to increase graduates' opportunities to find suitable employment and to successfully perform in the workplace (Lane, 2016:47). Students should be exposed to a broad range of experiences whilst studying, enabling them to connect on different levels, with different people and professions and in different areas of interest. A broad-based curriculum, incorporating different skills and expertise is required for students to perform not only academically but in work, life and society in general (Alpert, as cited in Minsky, 2016:1). Acknowledging the benefits of acquiring and developing employability skills in face-to-face instruction – which include oral communication skills, the skills to think on one's feet, interaction and problem solving and teamwork skills particularly during class seminars – is not always possible in traditional learning environments due to time constraints. Skills such as written communication and information technology are difficult to

develop in face-to-face learning environments, where students' personal engagement and interaction are required, unless if combined or supplemented with an alternative learning mode (Lane, 2016:48).

In pure online learning environments where the mode of delivery and interaction is technology based, written communication and information technology skills are more easily developed due to interaction and active participation. Other skills such as time management, working under pressure to submit assignments, reading recommended textbooks and notes, researching journal articles and critically reflecting on those through discussions, are difficult to achieve in the traditional classroom. Owston, as cited in Lane (2016:49), states that in 'a live classroom where conversations disappear' the online classroom captures 'every thought' for 'future examination, elaboration and extension'. Shea, as cited in Hozien (2014:392), supports this notion by adding that students 'make their thinking visible' when technology is applied. Compared to the lost opportunities in time-constrained traditional teaching and learning environments where students have to recall what was said and be verbally smart and confident, online classrooms allow for more thoughtful and reflective discussion with equal opportunities for interaction while students' written communication and critical thinking skills are developed (Lane, 2016:49).

The main weaknesses of asynchronous online learning are the lack of opportunities to develop verbal communication skills, possible difficulties with organising video conferencing when students and/or tutors are separated by different time zones, and the lack of physical interaction, eye contact and assessment of body language (Lane, 2016:49; Van Tonder, 2015:116). It is for these reasons that blended approaches are suggested, as it is seen as 'the best of both worlds, a little of the traditional with integration of the new' (Van Tonder, 2015:117). Not all employability skills can be taught in face-to-face learning environments, just as not all employability skills can be taught in pure online learning environments. Therefore, the development of employability skills should be a primary objective in all programmes through the use of a blended learning approach (Lane, 2016:52).

Considering the advantages technology learning offers and the potential for employability skills embedded in the formal curriculum, Chatterton and Rebbeck (2015:12) are surprised at the still quite limited use of the mode. However, some institutions are exploring this option, with technology considered an enabler for the development of employability skills embedded in the formal curriculum as in the case of a higher education institution identified for this study.

Regardless of the study field, all programmes are divided into foundation subjects, which provide students with the ability to set goals and use technology to pursue and obtain work-related skills. Regardless of the study field, all programmes are divided into foundation subjects, professional subjects and general subjects. Foundation subjects provide students with the ability to set study goals and to use an online learning platform to obtain work-related skills. Professional subjects relate to core subjects in a particular study field, and general subjects are designed to include an understanding of extended knowledge, basic principles and questions, and methods of inquiry and problem solving in i) communication, ii) the natural sciences, iii) the humanities, iv) mathematics and v) the social and behavioural sciences. All these subjects are designed to prepare students for work and life, and not to merely obtain a qualification in a particular study field. The philosophy of the blended learning approach of the institution under scrutiny is to provide students with a thorough understanding of theory and practice to demonstrate proficiency and competency in:

- Communication
    - Verbal, visual and written
- Listening
- Problem solving, critical thinking and creative thinking
- Data analysis, quantitative and qualitative reasoning, and scientific interpretation
- Cross-cultural awareness.

There are ways in which technology could be used to support employability development, with notable advantages for students, institutions and employers. Chatterton and Rebbeck (2015:7) and Killen (2016:1), as supported by Kalantzis and Cope (2012:25), identified technology-enhanced active, authentic and real-life learning experiences to assist with the development of employability skills. Inclusive practice with the assistance and support of tutors, researching, identifying and developing digital communication, and professional interaction with employers can assist students in building a digital identity with future prospects. The feedback and interaction between students, tutors and employers contribute to students' self-directed personal and professional development. In their findings of twenty case studies across different higher education, further education and skills development sectors, Chatterton and Rebbeck (2015:5) identified four significant challenges when using technology for employability development, stating that:

- Not all students, tutors and institutions are on the same point of the continuum regarding student employability maturity.
- Technology is not fully utilized for employability.
- Too little interaction and partnership opportunities exist with employers.
- There is insufficient emphasis on supporting institutions that are using technology for employability.

Killen (2016:1) identified additional challenges:

- There is great diversity in the students' experiences of technology, even in a group that appears to have much in common.
- The lack of or questionable reliability of internet access, connectivity and stability.
- Technology-learning platforms and digital curricula are not always used effectively.
- Providing cost effective and continuous professional development for teaching staff often working on a part-time basis can be difficult.
- There is little research and evidence on students' digital experiences and how they can be effectively engaged in efforts to enhance their experiences.

It is evident that employers require graduates who have not merely acquired the particular knowledge needed for a job, but the skills to assist them in performing their roles in the workplace to the satisfaction of all (Lane, 2016:52; Chatterton & Rebbeck, 2015:5). The next section is on an employability skills agenda.

3.8 21ST CENTURY EMPLOYABILITY SKILLS AGENDA

Due to the many perceptions of employability skills and depending on which theory one accepts, there are numerous different definitions of what these qualities are and what they should be. Generally, employability skills are referred to as vocational skills, higher order skills, soft skills, pervasive skills or meta-skills, and more pressure is put on educational institutions to include these in the formal curricula (Asonitou, 2014:284; Shuttleworth, 2012:245). These descriptions of skills are regularly used to include both cognitive and non-cognitive skills. Non-cognitive skills, which include interpersonal and intrapersonal skills, have been studied less extensively than cognitive skills (Pellegrino & Hilton, 2012: Sum1-4). Lander, as cited in Minsky (2016:1), observes a generation of academically overqualified graduates that are underprepared for the workplace as they lack interpersonal and intrapersonal skills, which employers often consider more important than specific knowledge. These are

attributes often referred to as 21st century skills (Lucas & Hanson, 2016:6) and CBI/Pearson (as cited in Chatterton & Rebbeck, 2015:5) explain their priority as follows:

> *Businesses look first and foremost for graduates with the right attitudes and aptitudes to enable them to be effective in the workplace – nearly nine in ten employers (89%) value these above factors such as degree subject (62%).*

21st century skills, usually associated with information and communication technologies, include skills such as communication, collaboration and innovation (Lucas & Hanson, 2016:10) and are defined as 'the skills almost everyone needs, to do almost any job' (UK Commission on Employment and Skills as cited in Lucas & Hanson, 2016:16). Employers, business and political leaders are progressively inviting educational institutions to develop skills such as problem solving, critical thinking, communication, collaboration, and self-management – all referred to as 21st century skills (Pellegrino & Hilton, 2012: Sum-1). The Assessment and Teaching of 21st Century Skills (ATC21S), through the University of Melbourne and employers of Cisco, Intel and Microsoft (Griffin, McGaw & Care, as cited in Lucas & Hanson, 2016:28; Griffen *et al.*, 2013:55) developed a framework of four categories to include proposed 21st century skills illustrated as:

Table 3-2: A framework of four categories to include proposed 21st century skills (Griffin, McGaw & Care, as cited in Lucas & Hanson, 2016:28; Griffen *et al.*, 2013:55)

WAYS OF THINKING:	WAYS OF WORKING:	TOOLS FOR WORKING:	WAYS OF LIVING IN THE WORLD:
• Creativity and innovation • Critical thinking, problem-solving, decision-making • Learning to learn, metacognition	• Communication • Collaboration	• Information technology • Information and communication technology (ICT) literacy	• Citizenship • Life and career • Personal and social responsibility

These skills, often referred to as higher order and complex skills (Griffin *et al.*, 2013:55; Pellegrino & Hilton, 2012: Sum-9), are not adequately attended to in the traditional formal curricula or assessment processes, as policy-makers favour systematized, on request, end-of-the-year assessments that are easily rated and quantified for accountability purposes. The importance of developing 21st century skills is to enhance deeper learning, which is transferable to the workplace (Pellegrino & Hilton, 2012: Sum-3). However, these skills can be included and measured through technology learning and assessment, which is evident in the higher education institution chosen for this study. The institution under discussion includes compulsory credit-bearing subjects, namely career development, computer and office automation, information literacy, and success strategies as foundation programmes for their formal curricula irrespective of study field, as illustrated below. Their core subjects for credit are related to specific study fields which are career-related and their general education programmes for credit consist of behavioural and social science electives, humanities electives, mathematical electives, science electives, writing electives and unspecific general education electives to form part of the formal curricula as illustrated below. All these subjects highly correspond with the four categories developed by the Assessment and Teaching of 21st Century Skills (ATC21S) as discussed in Griffin, McGaw and Care (as cited in Lucas and Hanson, 2016:28), Griffin *et al.* (2013:55), and Pellegrino and Hilton's cognitive, interpersonal and intrapersonal skill domains (Pellegrino & Hilton, 2012:2-1).

Table 3-3: Compulsory, credit-bearing subjects in formal curricula irrespective of study field

Foundation programmes	• Career development • Computer and office automation • Information literacy • Strategies for success
Professional career-specific programmes	Related to study field
General education programmes	• Behavioural and social science electives • Science electives • Humanities electives • Writing electives • Mathematical electives • Unspecific general education electives

For the purposes of this study an outline of the foundation and general education programmes are presented as a 21st century employability skills agenda.

3.8.1 Foundation programmes

The aim of the foundation programmes is to introduce and prepare students for studies and their lives as students towards achieving their academic and personal goals and towards more advanced learning in future. Not all students enter the learning space with the same learning experiences, backgrounds, cultures, age, digital skills, etc., and in order to create an atmosphere that minimizes anxiety, promotes positive attitudes, and stimulates the overall learning experience, foundation programmes are introduced and include:

- **Career development -** where students are taught skills to secure employment, such as creating resumes, practical interviewing, conducting research, exploring employment opportunities available in their field of study, and setting up interviews with prospective employers. This subject relates to important workplace issues such as professionalism, diversity, maintaining professional work environments, and common employee benefit programmes. More advanced career development provides for guest presenters and simulated interviews in addition to individual consultations. Students perform self-assessments of their interests and values while simultaneously focussing on their professional goals. Tutor interaction assists students with traditional and non-traditional

methods of job hunting, including technology resources. In this subject students learn about teamwork and to approach their career exploration with confidence and a winning attitude.

- **Computer and office automation -** where students are provided with an introduction to computers and computer literacy and will gain practical knowledge and understanding of word processing, spreadsheets and graphic presentation skills.
- **Information literacy -** introduces students to critical skills enabling them to understand the information culture and how to leverage information in a variety of formats; they also learn how to critically evaluate and interpret information sources in order to solve specific problems, communicate effectively, and become a knowledgeable and informed citizen and member of the community.
- **Success strategies -** enable and enhance students' learning experiences and prepare them for personal and professional success through personal inventories to enhance self-awareness of personal strengths, improve interpersonal and intrapersonal skills, and identify effective study skills. Technology skills, internet navigation, computer troubleshooting and computer tools and programs are also included and students are exposed to the concepts of goal-setting, self-assessment, reflection and time management.

3.8.2 General education programmes

These programmes are introduced to prepare students for their future roles as citizens, employees, managers, community members, entrepreneurs and more. In order to achieve these goals in 21st century learning while facing economic, environmental and social challenges, adult students need to acquire a full range of skills in ways that support not only knowledge retention and deeper learning but transformation of what was achieved. The subjects included in the general education programmes can be demonstrated through technology learning in areas of core academic content that are important for success in education, work, and other areas of adult responsibility (Pellegrino & Hilton, 2012: Sum-1) and include:

- **Behavioural and social science electives** – where students explore and study concepts, theories, research and facts associated with sociology, psychology, social problems in modern society, and organizational behaviour.
- **Science electives** – include principles of health, wellness and nutrition and students study concepts of environmental science.

- **Humanities electives** – where students gain a broad understanding of cultural history and human creativity in the areas of the philosophy, literature, religion, visual arts, literature and music and compare that with modern cultures.
- **Writing electives** – develop students' writing, research and critical thinking skills aimed at writing, reading and evaluating academic articles and research papers.
- **Mathematical electives** – provide students with basic mathematical skills.
- **Unspecific general education electives** – are developed to enhance students' oral presentation skills, leadership skills, ethics and professionalism in the workplace, cultural awareness and appreciation of diversity. Other general education electives included are an introduction to finances, micro, and macroeconomics, critical thinking and problem-solving, and entrepreneurship. American government as a general education elective aims to educate students about public policies that influence citizens' lives and aim to instil respect for their country and be informed voters. Additionally, internships are provided as opportunities for students to shadow professionals in their related study fields with possibilities of future digital interaction through the online learning platform.

The next section discusses work placement and experience as part of a 21st century employability skills agenda.

3.8.3 Work placement, experience and mentorship programmes

The contribution of internships and work placement programmes to the employability of graduates has been recognized by leaners, institutions and employers as one of the most efficient methods of connecting education and employment requirements (Asonitou, 2014:286; Wilson, 2012:37). The role work placement programmes play in enhancing learning opportunities in terms of career choices, student development, self-confidence and maturity cannot be underestimated (Sapp & Zhang as cited in Asonitou, 2014:286; Pop & Barkhuizen, 2013:28). For many institutions, internships and work placement programmes form part of their formal training and serve as prerequisites for obtaining a qualification. However, Asonitou (2014:286) suggests new methods and more interaction, particularly with the advancement of technology, where interaction between employers and students is possible via a discussion forum. It is evident from Lane (2016:48) that a blended learning approach has the potential for developing employability skills in ways not always possible in the traditional or online classroom alone. Students constitute the nexus between employers and higher education institutions (Van Der Merwe, 2013:24), as their personal engagement, direct work experience

and feedback often serve as corrective, informative and performance indicators to their institutions. Exposure to and experience of work placement assist graduates with their transition into employment and provide them with organizational and hands-on experiences of different work-related areas (Pop & Barkhuizen, 2013:28; Wilson, 2012:1), which is not possible in either face-to-face or the technology classroom. It is, however, students' general education skills, according to Pop and Barkhuizen (2013:35) which benefit most work placement programmes and ensure an even and successful transition between the world of learning and world of work. Although internship and work placement programmes are on the increase, stakeholders are calling for further expansion (Wilson, 2012:2). The advantages of internships and work placement programmes for employers are the potential for early identification of talent, the widening of their talent pool, and possibilities of securing long-term staff turnover and company loyalty (Wilson, 2012:44), closely linked to the mentorship of students. In some instances mentoring occurs voluntarily through 'the goodness of the mentor's heart' (Groenewald, 2012:310) or through contractually agreed partnerships performed by a workplace administrator. Smith, Mackay, Challis and Holt, as cited in Groenewald (2012:310) and supported by Van Der Merwe (2013:25) and Pop and Barkhuizen (2013:29) identified particular roles of workplace mentors:

- Support to students in their transition from student to employee.
- Provision of practical guidance, company procedures and guidelines, and the construction of general workplace skills.
- Assistance with career advice, professional development and growth, and serving as a role model.
- Provision of personal support including participation in collective company activities.

Successful mentorship programmes require active involvement, clearly defined responsibilities, and measurable outcomes between student and mentor with adequate interaction and feedback (Van Der Merwe, 2013:25; Groenewald, 2012:312). It is evident that students who have undergone effective mentorship programmes have greater career satisfaction and are more committed and loyal to their profession and organization compared to students without a mentor (Pop & Barkhuizen, 2013:29). In Berezuik, as cited in Pop and Barkhuizen (2013:29), students maintain that they accomplish more and become more competent when guided by a mentor and mentorship programmes, which contribute positively towards their employability and retention.

From an employability point of view, volunteer work assists students in developing essential skills and competencies related to a 21st century employee. Observed as part of a 21st century employability skills agenda, volunteer work is discussed next.

3.8.4 Volunteer work

Ofsted (as cited in Lucas & Hanson, 2016:54) studied volunteering practices and noted the close collaboration between educational institutions, communities, and industry. Students highlighted that volunteering created opportunities to enhance their employment possibilities. Being exposed to teamwork, leadership skills, flexibility, and communication skills, and their involvement in participatory projects where they could develop and influence the shape of activities, assisted them with their self-confidence, self-direction and goal setting. In Pheko and Molefhe's study (2016:8), almost all their student participants felt that their educational institutions and employers should provide them with opportunities to perform voluntary work before their graduation. It was further suggested that higher education institutions, perceived as direct feeders of employers, challenge current curricula to meet the needs of the labour market and provide broader learning experiences, encouraging employers and policymakers to improve partnerships and opportunities for volunteer work (Pheko & Molefhe, 2016:11).

Volunteering can be structured in different ways. It can serve as formal activities embedded in the curricula (British Council, 2014:11; Wilson, 2012:41) through established assessment and outcomes, through internal volunteering opportunities, or through community involvement, assisting in activities, societies, and clubs. Participation in meaningful undertakings where students can assist, such as in online peer support activities, caring for someone in a community, or involvement in a charity have the potential to enhance academic outcomes and stimulate employability skills (Ofsted, as cited in Lucas & Hanson, 2016:54; Lane, 2016:51; Wilson, 2012:40). It is evident that employers value perspectives and an understanding of diversity, which can be developed through volunteering engagements on and beyond campus (British Council, 2014:11). Many initiatives to foster volunteer work have been introduced, particularly in the United Kingdom; however, more attention should be given to the role of volunteering – not only on an educational level but in the workplace – as many students do not know how to get involved (Ofsted, as cited in Lucas & Hanson, 2016:56). It is further suggested that all employability practices, including volunteer work, be assessed and measured with adequate and continuous feedback throughout the learning process to enable students to self-

assess, value and understand their progress pertaining to their own learning processes (Ofsted, as cited in Lucas & Hanson, 2016:60).

The next section covers employability awards, proposed as part of a 21st century employability skills agenda.

3.8.5 Employability awards

In the UK, graduate employability has been a measure of university success for many years and the strategies used by higher education to develop students' employability skills are extensive, and include activities embedded in the curriculum, and mutual opportunities recognized through employability awards and work integrated learning, all of which are frequently assessed both directly and indirectly by using a variety of innovative methods (Lucas & Hanson, 2016:90; Pegg, Waldock, Hendy-Isaac & Lawton, 2012:13). Many higher education institutions, particularly in the United Kingdom, have initiated employability awards in recognition of outstanding achievements. The purpose of a reward system is to acknowledge the employability character displayed by extraordinary attainment and implementation according to specific criteria and can be undertaken in a number of different ways. A reward system helps students recognize that engaging in different activities beyond their formal learning can contribute to enhancing their professional skills and employability (Lucas & Hanson, 2016:49; The Quality Assurance Agency for Higher Education, 2013:1; Pegg *et. al.*, 2012:45) with the added benefit of having it recorded on resumes and academic records. The availability and provision of awards enable students to recognize that there is more to learning than theoretical knowledge or achieving a final mark or degree. There are particular calls from government, employers, and professional bodies for higher quality preparation of students in terms of skills required for entering the world of work (The Quality Assurance Agency for Higher Education, 2013:1) and one of these preparatory considerations is career development. In the next section, career development is discussed as part of a 21st century skills agenda.

3.8.6 Career development

The British Council's (2015:1) study conducted at different universities in Africa, including South Africa, reported that students in higher education seldomly access career guidance offices regardless the valuable services offered regarding their future careers. It is reported that career development programmes are underutilized and not all students participate or realize the importance of careers and personal development for future employment; those who do

highlight the benefits and related opportunities. An interesting observation was that 90 percent of final year students at one South African university did not know about the career development office or even where it was situated (British Council, 2015:10). The same institution also demonstrated the lowest percentage of students to utilize the assistance of a career counsellor when compared to institutions in Ghana, Kenya and Nigeria (British Council, 2015:15). Participants in a study commissioned by the Australian government indicated that students accessed career support offices too late in their programmes (Kinash, 2015:7) despite the acknowledgement by many students and institutions that career development and support improve graduate employability (Kinash, 2015:6). Proposals were made to incorporate career development throughout the student's learning experience (Kinash, 2015:7) and to prepare students for careers that do not yet exist or have not fully developed (Kinash, 2015:8). Graduate employability rates are the highest when there are clearly defined career pathways that include a collaborative effort by career development offices, tutors, students and employers to achieve the highest quality graduate outcomes (Kinash, 2015:2). Higher education institutions are therefore encouraged to recognize the potential career development services have in assisting students with employment choices and in expanding their options in different sectors (British Council, 2015:15), which leads to graduateness and employability, which follow next.

3.9 GRADUATENESS AND EMPLOYABILITY

'Student graduateness', a term coined by University of South Africa's Professor Gawie du Toit (Coetzee, *et. al.*, 2012: i) is often accompanied by discussions on employability skills related to employment (Chetty, 2012:9). However, according to Chetty (2012:9), and supported by Makhanya (2012:27), graduateness comprises of much more than a specific set of attributes a student should possess to be employable. In addition to the relationship between graduateness and employability, which includes key skills associated with labour market needs, employer expectations and students' perspectives of the labour market, Makhanya (2012:27) suggests that graduateness should be informed by the current position of higher education, supplemented by the fast-changing profile of students, globalization, and the advancement of technology in education. Despite graduateness being an essential outcome of higher education learning, sustainable employability is a continuous process subjected to change (Coetzee, 2012:152).

Employability is ultimately 'the ability to be employed' (Asonitou, 2015:284). In recent years, much emphasis has been placed on graduateness, employability, and the contribution of higher education institutions and employers to producing skilled, flexible and competent individuals

(Asonitou, 2015:283; Chetty, 2012:5). In the 21st century – where graduates need to remain employable through continuous development of distinctive qualities, knowledge and transferable experiences and skills – an academic qualification alone does not ensure employment (Kinash & Crane, 2015:152; Botha, 2012:385). Kinash (2015:10) proposes the development of strategies that are globally relevant to enhancing graduate employability, and suggests that educational institutions, tutors, curriculum designers, employers, and relevant stakeholders:

- Increase opportunities to support students' work placement, experience, and mentorship programmes by building partnerships, networking, and recommending students to employer contacts.
- Adopt a flexible, personalized curriculum where students can optimize their formal learning through a blended learning approach whilst in work placement and mentorship programmes, to still benefit from and not be excluded from their academic education.
- Clearly communicate applicable employability skills in the learning outcomes for every subject and how it aligns with graduate employability.
- Design and align authentic assessment activities that are associated with business practices, standards, and approaches.
- Align subject matter, employment options, and career pathways and be conscious of and communicate new emerging opportunities.
- Promote a learning experience that underlines knowledge, skills and attributes as enhancers of employability by means of digital tools, collaboration, facilitation, research projects and many other sources.
- Establish student-employer and student-graduate interactions where personal perspectives and experiences in different career fields are presented and students have the opportunities to pose questions to employers and graduates.
- Initiate the development of case studies with employers and graduates, either face-to-face or digitally, and apply these as learning materials with students.
- Explicitly guide students on how to be employable.

Achieving graduateness in an ever-changing environment, equipped with adequate skills to find suitable employment and fulfil the needs of the labour market is no easy task for higher education institutions. It is, however, imperative that government, institutions of learning, curriculum designers, employers, and relevant stakeholders find innovative ways to respond to

the needs of the labour market and society, both locally and globally (Makhanya, 2012:42). The expectations and experiences from higher education, employers, and students is discussed next.

3.9.1 Expectations and experiences from higher education, employers and graduates

The integration between academic knowledge and the development of employability has presented enormous challenges in terms of meeting labour market demands, particularly with an increasingly high-skilled economy (Perold, 2012:177). A general expectation would be that graduates have developed and acquired the academic knowledge and skills needed for them not only to be employable, but to be competent, active, and informed citizens. In a global knowledge-based society and economy, the perceptions institutions, employers, and graduates have about the quality of learning and career readiness have an influence on graduates' employment possibilities (Coetzee, 2012:120). There are contrasting impressions from higher education, employers and graduates regarding the construct of graduateness and employability and who's responsibility it is to develop graduateness in students. Graduates and employers frequently criticise higher education institutions' inability to encourage and produce students with the necessary skills to be employed in the workplace with immediate productivity. Graduates argue that, regardless their qualifications, they are unable to find employment, whilst employers claim that graduates lack the skills and knowledge to be appointed. Graduates expect to find a suitable career given the time and money spent and are discouraged when they are found lacking (Bernstein & Osman, 2012:46).

Perceptions held by higher education are that employability skills and graduateness are not obtained through curriculum adjustments and additional subjects and programmes, but are obtained from the higher education experience where employability skills are embedded in the curricula (Bath as cited in Kew, 2014:9; Bernstein & Osman, 2012:51). The reluctance of higher education institutions to align the academic landscape with labour market values and principles (Bernstein & Osman, 2012:51) has no value for the graduate trying to find employment and, in turn, for the employer unable to fill high-skilled positions. In the same way businesses redesign their models and processes to remain competitive, it is expected that educational institutions – as 'learning institutions' (Bernstein & Osman, 2012:51) – participate in 'unlearning' and 'new learning' (Bernstein & Osman, 2012:51) that incorporates 21st century approaches to employability. Garrison and Vaughan, as cited in Hozien (2014:389), encourage

higher education institutions to 'start delivering on its promises of providing learning experiences that engage and address the needs of society in the twenty-first century'.

With a growing emphasis on internationalization, student mobility, technological advancement, and digital possibilities available for learning, employers voice their concern over – and hold both higher education institutions and tutors responsible – for graduates' lack of quality, limited skills development and general shortfall in terms of graduateness (Kinash, 2015:12; Coetzee, 2012:120). This is particularly true where employers use employability skills as an indicator to meet the demands of a changing business environment (Coetzee, 2012:127). Three quarters of the three hundred and ten employers that participated in a survey done by CBI/Pearson, maintained that they were able to assist and contribute their part, but that more should be done by institutions to support students in their career development strategies (Hall, as cited in CBI/Pearson Education and Skills Survey, 2015:4). More than fifty-five percent of businesses indicated, with confidence, that there would not be enough skilled employees available at any time soon to fill future positions requiring advanced skills (CBI/Pearson Education and Skills Survey, 2015:6). Bristow, as cited in CBI/Pearson Education and Skills Survey (2015:5), purports that employers, students and tutors are in strong support of increased employability skills to advance education. It is evident that the experiences and expectations of 21st century learning is shaped by global pressures and competitiveness. If the labour market, educational institutions, tutors and students all believe in a high-skills solution, there is potential – with support by government – for successful collaboration in terms of employability. If not, there are real limitations to what higher education can do to make a real difference (Van Tonder, 2015:5). The next section focuses on the challenges unemployment imposes on graduates.

3.9.2 Challenges unemployment imposes on graduates

Youth the world over are facing higher rates of unemployment in comparison to older members of the labour force, and this became particularly noticeable since the global financial crisis (Levinsohn, Rankin, Roberts & Schöer, as cited in Oluwajodu, Blaauw, Greyling & Kleynhans, 2015:1). Compared to the rest of the world, the unemployment situation in South Africa is critical. This despite increased enrolment rates at higher education institutions and an increased number of graduates available for employment (Oluwajodu *et al.*, 2015:2). These new graduates are unable to find employment due to insufficient job creation, entering the wrong field of study, failing educational systems, or they themselves being unsuitable for

employment. The unemployment rate among graduates in South Africa has increased from 5,4 percent in 1995 to 7 percent in 2012 (Broekhuizen & Van Der Berg, as cited in Oluwajodu e*t al.*, 2015:2), which is still considerably low compared to the overall unemployment rates. However, the potential damage 'generation jobless' (Ramutloa, 2013:1) poses for the economy and society in general is alarming.

Mohamedbhai (2015:12) has attributed the number of unemployed graduates in Africa to the pursuit of enrolment figures by institutions of higher education – quantity at the cost of quality – which directly impacts on the value of the qualifications awarded, which means that graduates do not truly possess the qualities employers require, and are therefore unemployable. Efforts by educational institutions and potential employers to collaborate are unsatisfactory, and educational institutions are often eliminated from the labour market. Educational institutions alone cannot shoulder the blame for high graduate unemployment numbers; the responsibility should be shared by employers and government as well. The private sector, which is mostly foreign owned and fast becoming the main employer of graduates in Africa could support by offering mentorships and work-integrated learning programmes as part of their social responsibility to the countries their businesses reside in. African countries and governments have duplicated existing educational institutions creating, 'more of the same' (Mohamedbhai, 2015:12) instead of initiating a diversified system that delivers a workforce according to Africa's development priorities. Instead of 'merely producing large numbers of graduates' (Mohamedbhai, 2015:12), the expansion and diversification of higher education should be urgently prioritized. According to the Department of Labour in South Africa (Ramutloa, 2013:1), the country is not creating enough jobs for all who live in it; and it is currently the fastest growing region in the world, both economically and demographically, hosting the youngest population with immense educational expectations (Mohamedbhai, 2015:12; Ramutloa, 2013:1).

Graduate unemployment challenges are not limited to Africa. Thriving economies such as Singapore have expressed concerns over the increase in their graduate unemployment rate from 3,3 percent to 3.6 percent in 2013, and the Singaporean government has since reduced and capped higher education enrolments at 25 percent (Sharma, 2014:1). South Korea has an 80 percent university participation rate, which is amongst the highest globally, and it is believed that graduate unemployment will gradually rise (Mi-sook as cited in Sharma, 2014:1). Similar evidence is reported in China and India, and Jeffrey, as cited in Sharma (2014:1), reports that

27 000 applicants in India will apply for the same vacancy. Employers in these countries have expressed their concern about graduates' lack of talent, skills and competencies (Sharma, 2014:1).

3.10 CONCLUSION

It is evident that, in spite of inadequate academic quality, unacceptable learning outcomes, and the high unemployment rate of graduates due to a lack of or inferior quality of skills development, the time has come for national government departments, higher education institutions, curriculum designers, and all relevant stakeholders to admit their roles in failing graduates by allowing outdated, undesirable, depressing, and lifeless programmes that survive indefinitely with no expectations of renewal. Many academic leaders and researchers cited in this study acknowledge the disconnect between students' acquired skills and their expected skills not meeting the needs of employers; yet, limited solutions and much shifting of blame is observed. Graduates blame educational institutions and employers; employers blame higher education; graduates and government blame the economy – which, in South Africa, is showing very little hope for growth as more people are maintained by social grants from government than those gainfully employed (National Youth Policy 2020, 2015:12).

'We require a digitally skilled graduate' (IBM Manager Hamilton Ratshefola, as cited in Peyper, 2017:1), which is almost impossible given the demonstrated shortcomings of graduate training. Teaching and learning with technology, particularly when following a blended approach, is seen as an effective advancement to drive skills development in combining a variety of educational experiences in a mix of educational situations with embedded employability skills related to sustainable future employment (Tandoh, Flis & Blankson, 2014:18). Students who display that they are fit for purpose and fit for survival embrace flexible, innovative approaches relevant to graduateness and employability. Globally, countries have voiced the need to develop students' knowledge, skills and competencies for careers and life (World Economic Forum, 2015:16). Therefore, this study proposes a 21st century employability skills agenda with an expanded higher education system, supported by institutional governance and management, with the application of teaching and learning in blended environments through collaborative efforts to develop graduateness and employability of students.

CHAPTER FOUR: RESEARCH DESIGN

'Designing is a matter of concentration. You go deep into what you want to do. It's about intensive research, really. The concentration is warm and intimate and like the fire inside the earth - intense but not distorted. You can go to a place, really feel it in your heart. It's actually a beautiful feeling.' (Zumthor as cited in ArchEyes, 2016:1)

4.1 INTRODUCTION

Chapter two presented a theoretical framework on adult teaching and learning in blended learning environments, followed by an in-depth literature review of technology integration towards a knowledge workforce in chapter three. In this chapter, a detailed report on the research strategy and design employed for the study is explored and described, followed by the research methodology, the case and site selection, and data collection techniques. Lastly, an account of how data was analysed and interpreted – including how the research quality of the study was ensured and the ethical measures taken – is presented and discussed, followed by a conclusion.

The research design originated from the research questions and aim of the study stated in chapter one. Designing one's "logical blueprint" (Yin, 2016:83; Denzin & Lincoln as cited in Punch, 2014:114) entails making thoughtful, understandable and decisive decisions linking research questions to data collection, and the methods used to analyse data so the research findings address the research questions. The researcher's "logical blueprint" (Yin, 2016:83; Yin, 2014:29) also assisted in enhancing the correctness and truthfulness of this study.

4.2 RESEARCH QUESTIONS AND AIM

Emanating from the core problem statement as outlined in section 1.5 - namely that the integration of technology in higher education is inevitable with a change in pedagogical approach – the main research question that emerged was: How should blended learning in higher education be applied to advance the employability skills of graduates?

The following sub-questions emerged from the main research question:

- What were the experiences and expectations of students, graduates, tutors and institutional management of blended learning?
- What were the views of students, graduates, tutors and institutional management on the skills required for employment?
- How did students, graduates, tutors and institutional management experience institutional assistance towards employability development?

The aim of this study was to provide evidence-based research on how the quality of employability development through blended learning in higher education should be managed to prepare graduates for the diverse world of work, with specific objectives to determine:

- The experiences and expectations of students, graduates, tutors and institutional management using blended learning; and
- The aspects of blended learning that influence the development of employability skills.

The next section examines the proposed research strategy and design.

4.3 RESEARCH STRATEGY AND DESIGN

At the heart of this research design is a strategy guided by its research questions and determining the direction of the research procedures in order to answer the research questions (Punch & Oancea, 2014:143; Punch, 2014:115; Denzin & Lincoln, 2013:29). The intended purpose of this study was to explore and build rich descriptions of the experiences of participants in their real-world settings through personal and participatory contact in order to "get close" and obtain an "insider perspective" when blended learning is used for the development of graduate employability (Burke Johnson & Christensen, 2017:36-37; Marshall & Rossman, 2016:75; Yin, 2016:3). This exploratory research is a preliminary study in which the researcher examined new ideas by systematically exploring the views and activities of graduates, students, tutors and institutional management, hitherto unknown due to an absence of theory and previous research on the topic (Burke Johnson & Christensen, 2017:18; Creswell, 2013:48). With the limited information available, the research attempted to gain insight, increase understanding, and formulate an answer to the research problem.

A qualitative research design was chosen to search for a deeper understanding of participants' viewpoints and experiences of blended learning as tool for advancing graduate employability. Participants' viewpoints, opinions, values and experiences are best captured when the meanings they assign to their perspectives and involvements are understood through social

interaction and described in their own words (Marshall & Rossman, 2016:101; Newby, 2014:104; Punch & Oancea, 2014:343; Denzin & Lincoln, 2011:3). Where quantitative research aims to generalise results, this qualitative study seeks to make sense of and comprehensively describe participants' views and experiences (Burke Johnson & Christensen, 2017:253). The risk of introducing a new, unconventional pedagogic approach in managing the quality of blended learning to advance graduate employability justifies the proposal of guidelines for future research instead of merely stating findings from this research.

The advantage of a qualitative study is that participants are allowed to voice their opinions and concerns without the limitations of narrowly defined questions, laboratory situations, or experiments confined to numerical evidence, as is the case in quantitative research designs (Yin, 2016:9). Due to the variety of approaches and methods used and the relative flexibility of qualitative research, quantitative researchers often criticise it for the lack of a 'framework of rules' (Newby, 2014:103) and the absence of scientific evidence with measurable and objective approaches to generalise research findings (Newby, 2014:99). The true strength of qualitative research is the holistic and integrative approach to studying the views and perspectives of participants' lives in real-world conditions, using different types of data from different sources which are integrated to analyse and interpret the world of participants and not the views or assumptions of the researcher (Yin, 2016:9; Creswell, 2013:47).

As the best research approach is the one that most effectively answers research questions and no one research approach is more important than another (Newby, 2014:96). The researcher applied a qualitative research design and followed an interpretative and social constructivist philosophy to guide the research process, as it suggests the best way of obtaining participants' perspectives in a social setting and the meaning they attach to their real-life experiences (Creswell, 2013:24). The researcher relied on and was sensitive to participants' views of their experiences, subjectively formed through their social interactions (Savin-Baden & Major, 2013:57) and the researcher acknowledged that:

- Participants' actions are intentional and they construct their own realities.
- Participants' realities and knowledge evolve and change.
- Events and individuals are unique and cannot be generalised.
- Participants are studied in their natural setting without intervention or manipulation.
- Multiple realities exist that cannot be reduced to oversimplified interpretations.

- Rich descriptions represent the complexity of participants' realities seen through their eyes rather than that of the researcher (Cohen, Manion & Morrison, 2018:60; Creswell, 2013:45).

The ontological assumptions of the nature of "reality" in qualitative research refer to the notion of embracing multiple and different realities and report on how individual participants view these multiple realities. We have to acknowledge and take into account that different perspectives can have different interpretations and participants' realities of the world are internal and created by the experiences of participants (Cohen *et al.*, 2018:59; Newby, 2014:36; Creswell, 2013:20; Savin-Baden & Major, 2013:57). The epistemological assumption of the "nature of knowledge" (Savin-Baden & Major, 2013:56) maintains that, for the qualitative researcher, "knowledge is known – through the subjective experiences of people" (Creswell, 2013:20). In this study, the researcher envisaged getting close to participants' reality in uncontrolled and real-world conditions to make sense and interpret their views (Burke Johnson & Christensen, 2014:36-37) of using blended learning to advance graduate employability. For the researcher, knowledge is socially constructed through active collaboration to form an understanding of how and what participants' views are. The researcher and participants in this study are seen as co-producers rather than senders and receivers of knowledge.

Following an interpretive, social constructivist philosophy to explore participants' ontological and epistemological assumptions in their real worlds also shaped the researcher's interpretation of and position in the study (Creswell, 2013:24). The researcher taught and administrated a blended learning approach at a private higher education institution in the Western Cape of South Africa, where employability skills were embedded in the formal curricula. She also taught at various further education and training (FET) institutions where employability skills were not embedded in the formal curricula. These experiences fuelled an interest in exploring flexible and creative opportunities to address employability development and 21st century skills in the South African higher education and labour market through blended learning approaches. Having experienced both educational settings, the researcher possesses some insight into the research topic; however, participants' experiences and assumptions will contribute to the construction of reality and knowledge in a social context through social interaction, and not the views held by the researcher (Creswell, 2013:47).

The research methodology in this qualitative research is depicted as inductive, emerging and developing as the researcher makes meaning from the personally collected and analysed data

gathered from participants. Interpretations made in this study are shaped by the researchers' own experiences, understandings and background (Creswell, 2014:9; Creswell, 2013:22). A detailed discussion of the research methodology follows in the next section.

4.4 RESEARCH METHODOLOGY

The research methodology in this study includes the construction of research tools, the implementation of research rules, a logic of inquiry and a description of how the researcher arrived at conclusions to answer research questions (Gerring & Christenson, 2017:5). This is seen as "the toolkit of research methods brought together to crack the research problem" (Newby, 2014:53). Research methodology and research methods are often used interchangeably; however, in educational research where there are various contending methodologies with resounding and unique philosophies, measures and applications, it is not the case. A system of methods is intimately related to certain methodologies (Gerring & Christenson, 2017:5; Newby, 2014:53; Yin, 2014:8).

In this research, a case study method was used to explain, describe, illustrate, and enlighten participants' real-world experiences that were too complex for experimental methods (Yin, 2014:19). There are, however, different views of case studies. For some research methodologists, case study research is more of a strategy than a method, but which uses a combination of methods to explore the case (Punch & Oancea, 2014:148; Creswell, 2013:97). Merriam (as cited in Creswell, 2013:97) sees it as an approach, and Creswell (2013:97) views case study as a methodology, "a type of design in qualitative research". However, in this study, and in line with Yin (2014:2) and Burke Johnson and Christensen (2017:224), the researcher refers to the case study as a research method. For the researcher, the benefits of this case study was that the "how" and "why" questions could be answered in a situation where the researcher had limited control over behavioural events, with little information available, and the focus was on an existing occurrence in a bounded context (Yin, 2014:2; Punch & Oancea, 2014:148). Therefore, the case study allowed the researcher to explore and describe a specific group of people holistically and build in-depth understandings of important features, views and real-world experiences of participants in their context where participant responses could not be manipulated (Yin, 2014:2; Punch & Oancea, 2014:153).

For a comparative, more in-depth, and a variety of analyses, a multiple case study was applied. The multiple case study, also referred to as a comparative or collective case study, is used to compare different cases for similarities and variations, to effectively assess theories from the

results of the cases and for purposes of replication logic (Burke Johnson & Christensen, 2017:435-436; Gale, 2015:87; Yin, 2014:18; Punch & Oancea, 2014:151; Creswell, 2013:99). Multiple case studies are used for the same reason multiple experiments would be used – to follow a replication design. In this multiple case study, the researcher was able to understand and analyse the differences and similarities in and across selected cases. Multiple cases were also selected so as to include both similar and contrasting perspectives from participants involved in blended learning. The findings from multiple cases are considered to be more convincing, which in turn makes this study more credible (Yin, 2014:57). Using a multiple case study method in this research indicated a theoretical interest and not only reflect on the differences and/or similarities found (Gustaffson, 2017:3; Yin, 2014:57).

4.4.1 Purposeful case and site selection

"The cases you select affect the answers you get!" (Burke Johnson & Christensen, 2017:273). Due to the flexibility of qualitative research designs, a range of sampling approaches have been developed and applied over time. As cases were not selected from an extensive universe or population of like cases as is typical for experimental and statistical generalisation, the term "sampling" is avoided to prevent theoretical and terminological complications (Yin, 2016:83; Punch & Oancea, 2014:211). Instead, reference is made to purposeful selection of cases and sites. A specific set of criteria must be determined in advance in order to gain an understanding of and obtain answers to research questions. This is the topic of the next section.

4.4.1.1 Multiple cases

For this study, the researcher selected cases and sites that informed an understanding of how blended learning in higher education should be applied to advance graduate employability skills. The selection goals were to achieve representativeness of the context, attract diversity in the population, examine cases that provided support for particular theories in the study, and be able to establish comparisons to describe the reasons for differences between cases (Burke Johnson & Christensen, 2017:273; Yin, 2016:94; Creswell, 2013:156-156).

The researcher therefore applied a comparative multiple case study of four different cases at two different research sites to compare cases for similarities and differences. The first case consisted of graduates, the second of students, the third case included tutors and the fourth case included institutional management members who use/d a blended approach for teaching and learning at a higher education institution. One research site was based in the Eastern Cape of

South Africa, where participants use a blended learning approach across disciplines with no apparent employability skills embedded in the formal curricula. One research site was based in the United States of America, where participants used a blended learning approach across disciplines with employability skills embedded in the formal curricula. The researcher selected participants in either business-related studies or information technology disciplines, on the condition that blended learning was the mode of delivery. As this study wanted to compare the use of blended learning in higher education to enhance graduate employability, two different sites with different approaches were selected. The research site in the United States was selected, as the researcher was familiar with managing and lecturing through a blended learning model with embedded employability skills. Forty-three participants took part in this study. They were divided between the two sites and were selected with the assistance of the gatekeepers. Table 4.1 presents an outline of the number of participants involved in this study and Table 4.2 indicates the codes used for the different participants. The selected codes for graduates are displayed as G1SA, G2SA, G3SA, etc., for South African graduates, and G1US, G2US, G3US etc., for American graduates. Student codes are displayed as S1SA, S2SA, S3SA, etc., for South African students, and S1US, S2US, S3US, etc., for American students. Tutor codes are displayed as T1SA, T2SA, T3SA, etc., for South Africans and as T1US, T2US, T3US, etc., for American tutors. Codes for institutional management members are M1SA, M2SA, M3SA, etc., for South Africans and M1US, M2US, M3US, etc., for American managers.

Table 4-1: Number of participants on two research sites

PARTICIPANTS	SOUTH AFRICA	UNITED STATES OF AMERICA
Graduates	5	5
Students	5	4
Tutors	5	8
Management	5	6

Table 4-2: Codes used for participants in the study

	SOUTH AFRICA	UNITED STATES OF AMERICA
Graduates	G1SA, G2SA, G3SA, G4SA, G5SA	G1US, G2US, G3US, G4US, G5US
Students	S1SA, S2SA, S3SA, S4SA, S5SA	S1US, S2US, S3US, S4US
Tutors	T1SA, T2SA, T3SA, T4SA, T5SA	T1US, T2US, T3US, T3US, T4US, T5US, T6US, T7US, T8US

Management	M1SA, M2SA, M3SA, M4SA, M5SA	M1US, M2US, M3US, M4US, M5US, M6US

Table 4.3 below contains a profile summary of the participants. On both research sites, student and graduate participants used a technology learning platform in either business-related studies or information technology diploma or degree programmes. The profile of students and graduates outline their field of study and their career status. Tutor participants lecture in either business-related studies and/or information technology programmes and are full-time employees. Institutional management members are all full-time employees.

Table 4-3: Profile of participants

STUDENTS (9)	BUSINESS-RELATED STUDIES	INFORMATION TECHNOLOGY	FULL-TIME EMPLOYEE	PART-TIME EMPLOYEE	FULL-TIME STUDENT
S1SA	✓				✓
S2SA	✓				✓
S3SA	✓				✓
S4SA	✓				✓
S5SA	✓				✓
S1US	✓				✓
S2US	✓				✓
S3US	✓		✓		
S4US	✓		✓		
GRADUATES (10)	**BUSINESS-RELATED STUDIES**	**INFORMATION TECHNOLOGY**	**FULL-TIME EMPLOYEE**	**PART-TIME EMPLOYEE**	**FULL-TIME STUDENT**
G1SA	✓		✓		
G2SA	✓			✓	
G3SA	✓			✓	
G4SA	✓			✓	
G5SA	✓			✓	
G1US	✓		✓		
G2US	✓		✓		
G3US	✓		✓		
G4US		✓	✓		
G5US		✓		✓	
TUTORS (13)	**BUSINESS-RELATED STUDIES**	**INFORMATION TECHNOLOGY**	**FULL-TIME EMPLOYEE**	**PART-TIME EMPLOYEE**	
T1SA	✓		✓		
T2SA	✓		✓		
T3SA	✓		✓		
T4SA	✓		✓		
T5SA	✓		✓		
T1US	✓		✓		
T2US	✓		✓		
T3US	✓		✓		
T4US	✓		✓		

T5US	✓		✓		
T6US		✓	✓		
T7US		✓	✓		
T8US		✓	✓		
INSTITUTIONAL MANAGEMENT (11)			**FULL-TIME EMPLOYEE**		
M1SA			✓		
M2SA			✓		
M3SA			✓		
M4SA			✓		
M5SA			✓		
M1US			✓		
M2US			✓		
M3US			✓		
M4US			✓		
M5US			✓		
M6US			✓		

4.4.1.2 Gatekeepers

As the researcher had no direct contact with the groups or sites, gatekeepers were identified to gain access to conduct the study and obtain participant information. As members of the selected institutions, the gatekeepers were contacted to assist with the identification of suitable participants complying with the research criteria of this study. Good gatekeepers were invaluable to the research, as the researcher was neither a member, nor geographically close to either institution, and good gatekeepers were essential for quality data collection (Yin, 2016:124; Savin-Baden & Major, 2013:347). The researcher contacted academic management members that preside over blended learning at both institutions to guide the researcher towards participant selection and inform gatekeepers of:

- The intended purpose of the study and the importance of participants.
- The reason(s) the specific site was chosen.
- What the study aimed to achieve and the possible benefits for their institutions.
- The time frame and information required for the study.

- The potential risks – if any – of the study.
- How the research results would be used (Creswell, as cited in Savin-Baden & Major, 2013:347).

The researcher obtained the contact details of graduates, students, tutors, and members of institutional management on each research site. The researcher made contact with individuals via email to invite and inform them of the research and its purpose. Gatekeepers were included in email correspondence for transparency and ethical considerations. The replication logic for the cases selected is discussed next.

4.4.1.3 Replication logic

There is no reason why replication logic cannot be applied in qualitative research[1] (Yin, as cited in Burke, Johnson & Christensen, 2017:305). When a multiple case study is conducted, replication logic and not sampling logic is selected to answer research questions (Yin, 2014:57). In this study, each case was selected for a literal replication – as similar results were anticipated, and for a theoretical replication – as variation was anticipated. Literal replication was expected as all participants used blended learning in higher education. Theoretical replication was expected, as employability skills were not embedded in the formal curricula of the Eastern Cape research site. The rationale for using a multiple case study was derived directly from case replications - both literal and theoretical – rather than sample size (Yin, 2014:61). Findings that can be replicated are more robust and reliable (Burke Johnson & Christensen, 2017:436). It was envisaged that the four proposed cases would provide sufficient opportunity for theme identification and cross-case analysis (Creswell, 2013:157). In a quantitative study, the sampling logic is intended to represent a larger population to achieve sample values closer to population values for generalisation purposes. Whereas, in this qualitative study, the intention and relevancy was to maximise information acquisition without reference or generalisation to a larger population (Yin, 2016:95).

4.4.1.4 Maximum variation

In this research, multiple cases were selected to obtain as much as possible relevant and rich data through a maximum variation sampling approach. As this purposive selection of cases included four diverse cases, each holding different views and experiences to answer research

[1] Robert Yin's case study work was approved by the late Donald Campbell, who is considered the most important research methodologist over the past 50 years (Burke Johnson & Christensen, 2017:313).

questions, it allowed the researcher access to as much variation as possible and, during data analysis, enabled the researcher to search for a central theme or pattern that occurred across the cases (Burke Johnson & Christensen, 2017:273; Yin, 2016:94; Punch & Oancea, 2014:211; Creswell, 2013:157).

4.4.1.5 Case study rules of conduct

Having a case study protocol (Yin, 2014:84) is advisable under all circumstances, but vital when one conducts multiple case studies. Applying specific rules of conduct increases the reliability of case study research, which is essential when data is analysed (Yin, 2014:85). The four rules of conduct that were followed in this study, were to: a) present an overview and goals, accompanied by background studies and research questions that reflect the rationale for selecting the four cases; b) demonstrate the strategy and approach to collecting data from participants in their real-world situations; c) introduce the data collection questions, level of questions and patterns of findings across multiple cases, including other sources of evidence used in the cases; and d) provide an outline of how data are presented, accompanied by a bibliography. Following these rules of conduct kept the researcher focused on the intention of the case study, helped avoid possible mismatches, and compelled the researcher to be prepared for unforeseen complications whilst conducting the study. In line with these rules of conduct for conducting multiple case studies, a case study has to be clearly defined and bounded (Yin, 2014:31).

4.4.1.6 Defining and bounding the case

This multiple case study was defined and bounded in terms of its research setting, sites, the population and the phenomenon studied (Marshall & Rosmann, 2016:105; Yin, 2014:31; Creswell, 2013:156). This refers to the experiences of participants in four cases on two different research sites of blended learning in higher education for the advancement of graduate employability skills. The data collection methods used guided the researcher to establishing the criteria and narrowing the potential case studies (Marhall & Rosmann, 2016:105; Yin, 2014:31) and will be discussed next

4.4.2 Data collection

One advantage of a case study research is the variety of available data collection methods. These multiple data sources can be employed to strengthen the quality of the study (Burke Johnson & Christensen, 2017:225; Yin, 2014:102). For the purpose of triangulation, five data-

collection methods were applied for this research. These were document analysis, individual virtual interviews, electronic qualitative questionnaires, a pilot test, and e-mail interviews. The rationale for triangulation in this study was to link the research findings through five different data collection methods and to seek confirmation from these five methods (Burke Johnson & Christensen, 2017:298; Yin, 2016:87; Yin, 2014:121). As the study drew on different sources of information from graduates, students, tutors and members of institutional management, it was anticipated that the collection of rich evidence through replication would verify the accuracy and credibility of the findings (Creswell, 2013:302).

4.4.2.1 Document analysis

Document analysis is an anticipated source of information in a case study and serves as a productive method of providing a variety of information for qualitative educational research. The use of document analysis is valuable in verifying and increasing corroboration from other sources and to make interpretations (Yin, 2014:105-107). The sheer mass of online and digital information available in the form of social media and online blogs where users are free to express their experiences and views, has changed how researchers view document analysis (Hewson, 2014:439; Punch & Oancea, 2014:201; Creswell, 2013:159). In order to obtain individuals' personal views expressed in their own words in real time and in their real worlds, the researcher studied educational forums, social media and online blogs, media reports, government journals, newspapers, audio and visual evidence, and other information associated with blended learning in higher education. Information was collected and integrated with data obtained through virtual individual interviews, electronic qualitative questionnaires, and e-mail interviews, and for the purpose of triangulating the research findings. The researcher critically engaged with the documents analysed to assess the quality of information for authenticity, credibility, and representativeness of the phenomenon under scrutiny (Punch & Oancea, 2014:207; Savin-Baden & Major, 2013:408).

4.4.2.2 Virtual individual interviews

From a social constructivist point of view, it was significant for the qualitative researcher to determine the meaning participants ascribed to their first-hand experiences of blended learning in higher education for the enhancement of graduate employability skills. In this research, the focus on interviews was not to discover facts, but to develop an understanding and interpretation of the meaning participants assigned to their real-worlds. The researcher constructed meaning and made interpretations from interviews following a broad and general

interview approach. Semi-structured individual interviews with open-ended questions were utilised to establish rapport with participants and focus on understanding the central phenomenon in this study (see Appendices H & I). As the response communication deepened, the researcher probed for more in-depth perspectives and experiences to gather more comprehensive data (Punch & Oancea, 2014:183; Creswell, 2013:25; Savin-Baden & Major, 2013:358).

In this study, semi-structured virtual individual interviews with participants via Skype was conducted as an alternative to face-to-face interviewing. With assistance from the gatekeepers, interviews were conducted with nineteen participants on both the Eastern Cape of South Africa and the United States sites to explore their different learning perceptions and personal experiences of using blended learning to enhance graduate employability skills. Nineteen interviews were conducted: five graduates and five students on the South African site were interviewed, and five graduates and four students on the American site were interviewed. The motivation for this selection was that graduates and students who are employed, are perceived to provide the best answers to the research questions. Due to participants' work and family responsibilities, geographical distances and the different time zones for participants in the United States, interviews were scheduled according to participant convenience. Virtual interviews required participants to be digitally connected and competent in the use of technological applications. This presented no problems, as the groups used technology for learning. The researcher was also quite comfortable with online interviews, as she is familiar with online teaching and learning. Participants' perspectives unfolded from their point of view and not that of the researcher. Semi-structured interviews allowed methodical and recurring collection of information, which had the potential both to capture rich data and ensure efficient data analysis (Marshall & Rossman, 2016:150). Interviews were voice recorded and transcribed for interpretation (see Appendix M), and the data was organised and prepared for analysis after the first interview had been conducted.

4.4.2.3 Pilot test

The pilot test is often compared to a "dress rehearsal", (Yin, 2014:96) and was conducted to refine data collection plans and develop relevant lines of questions for the qualitative questionnaire before it was formally distributed to participants in the study. The pilot test was not done as a pre-test, but used to alert the researcher to possible operation failures, difficulties with questions, time required for the completion of the questionnaires, and to determine

whether the questions actually measured what they were intended to measure. The pilot test was conducted with five close colleagues at the researcher's place of residence where participants were able to use the researcher's internet connection. The "think-aloud technique" (Burke Johnson & Christensen, 2017:212) where the five participants were able to verbalise their thoughts whilst completing the questionnaire, was utilised. Being colleagues collaborating in an informal setting, the researcher regarded the participation as open and honest, which was considered valuable to this study. The pilot test session was voice recorded and the researcher made observation notes for review. After the test, the researcher conducted a group session to discuss the questionnaire and probed participants for explanations. This enabled the researcher to amend and revise the questionnaire before circulation to participants.

4.4.2.4 Electronic qualitative questionnaire

Using qualitative questionnaires as a "self-report data-collection" method (Burke Johnson & Christensen, 2017:190) allowed participants to express their experiences, beliefs and perceptions of using blended learning to hone employability skills. Participants' responses in the qualitative questionnaires were valuable, as they were allowed to explain and elaborate on their personal views and opinions. As retrospective, current and prospective questions and statements were included in the questionnaire, it allowed the researcher to make comparisons within and between cases and interpret what was or was not said (Burke Johnson & Christensen, 2017:191).

The researcher circulated an unstructured questionnaire with open-ended questions for personalised and reflective input from participants (see Appendices J & K). In this study, the researcher electronically distributed questionnaires to participants with the assistance of gatekeepers. In order to prevent participant confusion and uncertainty that may lead to non-completion or refusal (Burke Johnson & Christensen, 2017:209), the questionnaire was designed in a straightforward format with a user-friendly appearance using Microsoft Outlook. On receipt, participants were able to reply and send their completed answers without having to open, complete and save information in a different format before returning it to the researcher. For the qualitative researcher, the verbatim quotes, views and experiences as described by participants in their own words not only adds to the authenticity of participant feedback, but allows the researcher to make interpretations and describe participants' answers to the research questions. For the purpose of this study, twenty-four participants were selected: five tutors and five institutional management members on the South African site, and eight tutors and six

institutional management members on the American site. The motivation for this selection was the valuable insight from tutors and institutional management, as feedback collected included factual knowledge of their experiences, their understanding of blended learning, employability skills, the importance of curricula that included employability skills, their self-interest, preferences, alternatives to learning, and their values and judgments in terms of the use of blended learning to enhance graduate employability (see Appendix N). The qualitative questionnaire was deemed best suited to accommodate tutors' and management members' time constraints, responsibilities, other commitments, and the different time zones of participants in the United States. The reflective nature and asynchronous options of the electronic qualitative questionnaire yielded a positive participation rate and information-rich feedback. Data were organised and prepared for analysis after the first questionnaire was returned.

4.4.2.5 E-mail interviews

E-mail interviews were conducted as a follow up to virtual interviews and electronic qualitative questionnaires to clarify answers and for further elaboration (Marshall & Rossman, 2016:181; Creswell, 2013:159; Savin-Baden & Major, 2013:363). This was particularly beneficial in terms of the difference in time zones with participants in the United States and the asynchronous nature of e-mails, as participants had the opportunity to reflect and answer questions in their own time (see Appendix L). A further benefit was that participants were contacted over extended periods as the need arose. A substantial number of respondents engaged by means of various mobile devices, allowing for instant feedback from participants (Marshall & Rossman, 2016:182; Creswell, 2013:159).

4.4.3 Data analysis

The data collected was organised, reviewed, coded, assessed and themes were identified to create empirically-based findings (Yin, 2014:132; Creswell, 2013:179). Data collection and analysis were recurrent and continuous as the researcher rotated between collecting and analysing data. The researcher determined which of the data already collected was important, as it would provide the necessary insight to develop a more rigorous analysis as the process deepened. In the process of conducting virtual interviews and simultaneously completing electronic questionnaires, followed up by e-mail discussions, the researcher was able to filter information and build developing theories from the data (Burke Johnson & Christensen, 2017:567). Data analysis in a qualitative case study is not a one-size-fits all process and can be designed according to the researcher's own set of analytical strategies. The process of data

analysis starts with data or text and it ends with a findings report to be presented in line with Creswell's (2013:183) "data analysis spiral", which is discussed next.

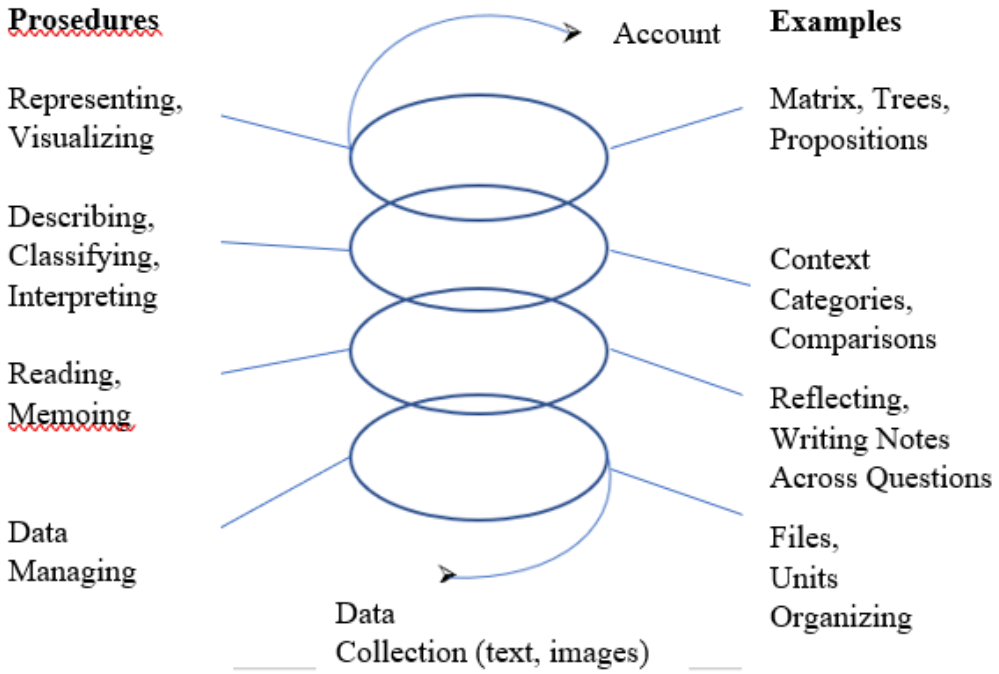

Figure 4-1: The data analysis spiral (Creswell, 2013:183)

- Spiral 1 is to manage and organise data. Starting an analytic strategy, the researcher managed, organised and electronically transcribed and prepared the virtual interviews, electronic questionnaires and e-mail interviews from spoken and written words to text data. Data obtained from the multiple cases was explored in detail and the process of coding and organising data according to the cases and according to the research sites started to distinguish between usable and non-usable data.
- Spiral 2 is to read and record. The researcher engaged in reading the transcribed interviews, questionnaire answers and e-mail discussions to gain an understanding of the details from the four cases. Using Microsoft Office Word, the researcher underlined, highlighted and made electronic notes and comments. The importance of this recording exercise was to reflect on what has been or has not been said (Burke Johnson and Christenssen, 2017:567-568; Yin, 2014:135; Punch & Oancea, 2014:229; Creswell, 2013:183). Notes consisted of words, thoughts, phrases, opinions and ideas which signalled preliminary interpretations, and lead to the development of concepts, themes and patterns (Burke Johnson & Christensen, 2017:568; Yin, 2014:135; Creswell, 2013:184).

- Spiral 3 is to describe and develop themes and interpret. Detailed descriptions of the cases assisted the researcher to form an understanding of the contextual relationships. It is at this point where the researcher combined text into categories of information using code names that best described the information (Creswell, 2013:186). Related themes were developed across the data from the different codes collected to form an encompassing idea. The researcher used analytical thinking and reflected on the cases to develop a deeper understanding of the information provided from each case (Burke Johnson & Christensen, 2017:579). As the cases were the main units of analysis, the researcher looked for corresponding patterns in and across the cases for comparison (Burke Johnson & Christensen, 2017:437; Yin, 2014:59; Creswell, 2013:199; Creswell, 2013:157). At the point where all themes had been well developed and further analysis produced nothing new, the researcher started to interpret the data to make sense of the codes and the developed themes (Creswell, 2013:187). The interpretation from analysing the case study data through maximum information acquisition (Yin, 2016:95) was to generalise the findings to the four cases in this research, and not the larger population.
- Spiral 4 is to represent and visualise the data. In this final step, the findings are represented using a world table to show the relationship between categories (Creswell, 2013:188). In order to answer the research questions, the findings on each case are reported separately with a combined section on the findings from all cases. The findings are presented using a holistic approach to give rich descriptions of the multiple cases and to compare the research questions to the findings to ensure quality strategies are followed in this study (Burke Johnson & Christensen, 2017:437). Research quality is the next topic of discussion.

4.4.4 Ensuring research quality

There is no single golden rule for ensuring the quality of research. Instead, the researcher established her own position and a strategy to ensure quality of the research (Savin-Baden & Major, 2013:469). The researcher's interpretive and social constructivist philosophical position was followed to guide the approach in ensuring research quality. Different strategies for understanding - not to validate and verify - was applied to strengthen the trustworthiness of this qualitative study which was determined by its credibility, transferability, dependability and confirmability, opposed to validity and reliability which is more related to quantitative studies (Marshall & Rossman, 2016:46; Lincoln & Guba as cited in Creswell, 2013:246; Savin-Baden & Major, 2013:475). The strategy for ensuring research quality will be presented in a table and discussed next.

Table 4-4: Ensuring research quality

TRUSTWORTHINESS			
CREDIBILITY	**TRANSFERABILITY**	**DEPENDABILITY**	**CONFIRMABILITY**
Triangulate findings	Qualitative generalisation	Case replication	Interpretation
	Within and cross-case comparison	Case study protocol	Member checking

4.4.4.1 Trustworthiness

Due to the subjective nature of the researcher being the main instrument of data collection, holding subjective views and following an interpretivist orientation, creating a strong sense of trustworthiness was vital in building credibility. The research goal was to build trustworthiness in the process and methods used that could affect data interpretation. This included the research topic, the cases and sites studied, the rules of conduct and the challenges the researcher encountered (Yin, 2016:86).

- **Credibility**

Departing from the researcher's philosophical stance to present a credible study was to indicate confidence in the truth of the data collected. The researcher attempted to understand and report participants' views without attempting to change them (Yin, 2016:85; Savin-Baden & Major, 2013:62; Eisner, as cited in Creswell, 2013:246). The credibility of this qualitative report depends on the variety of research methods used, the credibility of the researcher as instrument of data collection, the exploration of participants in their real-world settings, the inductive analysis, cases selected, and the holistic approach used (Patton, as cited in Marshall & Rossman, 2016:260).

Triangulating findings

To strengthen the credibility of this study, the results of document analysis, virtual interviews, qualitative questionnaires and e-mail discussions had to be triangulated. The researcher kept a "triangulating mind" (Yin, 2016:87) throughout the study to seek corroboration in the findings from the different data sources, but also the research would prove useful for further study in other settings (Yin, 2014:120; Creswell, 2014:201; Savin-Baden & Major, 2013:477).

- **Transferability**

Transferability means that the findings of a study are applicable in other contexts; it can be productively transferred to similar situations with similar research questions (Savin-Baden & Major, 2013:475). Rich and detailed descriptions of the cases and themes ensured that the research findings were transferable between the researcher and the four cases studied and would enable other readers to transfer information to other settings "because of shared characteristics" (Erlandson, as cited in Creswell, 2013:252; Creswell, 2013:246).

Qualitative generalisation

Based on the cases studied, the research strategy and the research questions, the purpose of the study was to explore and build rich descriptions of the experiences of participants in their real-world settings when using blended learning in higher education to advance employability skills. Statistical generalisation of the findings to a larger population or setting was not the intention (Punch & Oancea, 2014:152-155). However, the data collection and analysis guided the researcher to determine whether the multiple cases described could indeed be analytically generalised – based on the interpretations made of participants' perceptions – and transferred to related cases and settings, or to inform theoretical development applicable to other cases for further research (Marshall & Rossman, 2016:262; Creswell, 2014:204).

Within and cross-case comparison

As cross-case analysis only applies to multiple case studies (Yin, 2014:164), the findings from four cases were compared for similarities and differences. In each case, findings are first reported separately, before the findings from the different cases are compared and reported across the cases (Burke Johnson & Christensen, 2017:437; Yin, 2016:89; Punch & Oancea, 2014:150).

- **Dependability**

The researcher documented the procedures of the cases studied and recognised that the research context, being qualitative and interpretative, was unpredictable and could change during the process of data collection and analysis. The researcher indicated strategies to account for changing conditions in the cases studied and in the research design while the research was ongoing (Marshall & Rossman, 2016:262; Savin-Baden & Major, 2013:475). Dependability of this study prevailed as participants' answers to the research questions during the interview was

consistent to the answers received from the qualitative questionnaire and e-mail discussions (Creswell, 2014:160).

Case replication

In this study, four cases were selected to replicate the same procedures and to explore similarities and differences in participant experiences of using blended learning in higher education to enhance graduate employability skills. The logic for case replication was comparable to that used in multiple experiments, which was to determine whether findings could be duplicated when conducting more than one experiment (Yin, 2014:57).

Case study protocol

Following a case study protocol, the researcher reported on the four rules of conduct to describe the procedures undertaken in this study. The researcher described a) the background, goals and how the research questions were answered; b) the strategy and approaches followed to collect data; c) the questions and levels of questions asked, including the sources used to collect data; and d) an outline of how data was presented (Yin, 2014:84; Creswell, 2014:203).

- **Confirmability**

This study was shaped by the views and involvement of graduates, students, tutors, and managements, and the researcher's interpretations of the findings which was presented to participants for confirmation (Denzin & Lincoln, 2013:345; Savin-Badin & Major, 2013:476; Creswell, 2013:246). This reflective engagement of an honest and open account without researcher bias to influence the findings, descriptions and interpretation of the study, contributed to the quality of this research.

Interpretation

From a social constructivist point of view, the researcher was seeking to understand participants' experiences and views of the use of blended learning for employability skills development. Subjective meaning was, however, formed during interaction with participants in interviews, qualitative questionnaires, and e-mail discussions. Hence, the researcher attempted at all times to accurately interpret participants' real worlds (Burke Johnson & Christensen, 2017:301).

Member checking

Participants' feedback was vital to confirming whether interpretations of their viewpoints were accurate and authentic. Using verbatim quotes of the views and experiences as described by participants contributed to the credibility of this study (Burke Johnson & Christensen, 2017:301). The researcher engaged participants in member checking by submitting the case analyses and the major findings to them for comment (Creswell, 2014:202). Although no comments were received, member checking is not only regarded as a professional courtesy; it provides participants in a study with the opportunity to question interpretations and key findings, which could prove useful for the researcher (Yin, 2014:199).

4.4.4.2 The researcher's role

As main instrument of data collection in this qualitative case study, the researcher's key interest was to gain insight and understanding, and to report honest findings following ethical measures. In an attempt to understand and interpret participants' viewpoint and perspectives through social collaboration, the researcher acknowledged her "research lens" (Yin, 2016:28) which contains subjective and objective qualities. Observing that "no lens is free of bias" (Yin, 2016:40) the researcher presented rich and thick descriptions of this study. As opposed to minimising selective reporting, thick descriptions require comprehensive consideration and reporting, which in turn reduces research bias (Yin, 2016:41).

An important key to obtaining rich data was the researchers' involvement and interest in the use of technology in higher education, and the advancement of graduate employability. This enabled the researcher, through her "querying mind" (Yin, 2016:30) to listen and ask questions that lead to rich data. The verbatim quotes that illustrated the interpretations contributed to transparency and fair reporting. Participants in this study were adults and professionals with careers, families, and many other responsibilities, and the researcher acknowledged the interruption data collection caused in their daily routines. Their willingness was not taken for granted, and their sharing of their social experiences was respected (Marshall & Rossman, 2016:53).

The researcher acknowledged the value and sensitivity of the data and the importance of safeguarding it for the sake of confidentiality; this was done electronically. All data files were organised, backed up, saved on an external drive, and locked up in a fireproof safe. As the

nature of this study required the researcher to multitask different research activities that occurred simultaneously (Yin, 2016:32), planning, organising and managing data and time were essential research skills. It was therefore important for the researcher to anticipate ethical issues prior, during, and after the study – which is discussed next.

4.4.5 Ethical measures

To ensure a high level of participant disclosure, the researcher protected participants, respected them and their institutions, their time, privacy and rights, and established trust through honest and ethical conduct and reporting. The researcher undertook to guard against any forms of misconduct or unprofessionalism that might jeopardise the interests of participants or their institutions (Burke Johnson & Christensen, 2017:131; Creswell, 2014:92), and committed to being open and transparent when the study commenced, during data collection and analysis, and when findings were reported and the data stored (Creswell, 2014:95). The researcher undertook the following ethical measures throughout the study to guide and assist the inquiry.

4.4.5.1 Voluntary informed consent

Prior to conducting this study, the researcher requested and obtained written permission from the institution identified in the Eastern Cape of South Africa (see Appendix D) and the institution identified in the United States (see Appendix E) after clearance had been obtained from the Research Ethics Committee of the University of South Africa's College of Education (see Appendix B). The researcher further required voluntary informed consent (Yin, 2016:49) from all prospective participants which included graduates, students, tutors, and members of institutional management who participated in this study (see Appendix G). This was done with the assistance of the gatekeepers identified at the onset of the study. The researcher undertook to inform participants of their voluntary involvement and their right not to participate, or to withdraw from the study at any time without consequences to them or their institutions (Burke Johnson & Christensen, 2017:138). It was clearly communicated to them that participation was entirely voluntary (see Appendix F). The researcher undertook to give participants a written description and pertinent information regarding the study (see Appendix F), since it could have influence their decision to participate (Burke Johnson & Christensen, 2017:132). The following information was included:

- The research background and purpose, including the procedures that would be followed.
- The multiple case selection for this study.

- Duration of the interviews and time to complete the questionnaire.
- Contact details of whom participants could contact regarding this study.
- Participants' and institutions' right to anonymity and confidentiality.
- A statement of how results would be presented for member checking and the presentation of the final results.
- Voluntary participation and the right to withdraw at any point (Johnson & Christensen, 2017:132).

4.4.5.2 Anonymity and confidentiality

The researcher was ethically obligated to maintain the anonymity and confidentiality of participants and their data; the interviews, qualitative questionnaires and e-mail discussions were also regarded as personal and confidential, and would not be made available for public viewing (Burke Johnson & Christensen, 2017:146). The researcher undertook that no data that could identify participants to a third party would be revealed or presented in any record or report, and that there would be no link between the data and the participants (McMillan & Schumacher 2010:121). Furthermore, to maintain anonymity and confidentiality, neither the institutions involved nor the individual participants would be identifiable in print. Participants' privacy and anonymity were ensured by assigning letters and numbers to each participating individual as outlined in Table 4.2. In addition, all collected data was electronically stored on a password protected computer and external storage device, and locked in a fireproof safe for a minimum of five years.

4.4.5.3 Maintaining honesty and openness

Protecting participants and their data is the primary focus in research ethics (Yin, 2016:47; Creswell, 2014:99). Both the character and integrity of the researcher manifested in the honest and ethical disclosure of methods and the reporting of research results (Creswell, 2014:99). The researcher undertook to accurately report on the full findings and the conclusions made from this study in a transparent manner, and these were made available and was shared with participants and stakeholders for review (Yin, 2016:13; Creswell, 2014:100; Creswell, 2013:60). The distinctive characteristic of qualitative research is to report on the diversity of perspectives available and the researcher did not invent findings to meet either participants' or the researcher's preferred or preconceived needs (Creswell, 2014:99).

4.5 CONCLUSION

In this qualitative study where the researcher was the main instrument of data collection, the researcher explored and sought to understand the "how" and "why" of participants' viewpoints and experiences of using blended learning in higher education to advance graduate employability skills. The qualitative research design appeared to be the best approach to holistically study the perspectives of participants in their real-world situations through an interpretative and social constructivist philosophy. A multiple case method with a comparative approach was applied to understand the differences and similarities between the four purposefully selected cases. The findings from a multiple case study were more robust, as the analysed data could be compared both within and across the cases studied. With the assistance of gatekeepers, participants were selected to obtain maximum, relevant and rich data through a maximum variation sampling approach and the researcher was guided by case study rules of conduct. Different data collection methods were used for the purpose of triangulation. Data was analysed and reported using a "data analysis spiral" (Creswell, 2013:183). Ensuring research quality and a high level of participant disclosure, the researcher adhered to ethical measures and reported on findings in an honest and transparent manner.

CHAPTER FIVE: ANALYSIS OF DATA AND DISCUSSION OF FINDINGS

'Interpretation is a complex and dynamic craft, with as much creative artistry as technical exactitude, and it requires an abundance of patient plodding, fortitude, and discipline. There are many changing rhythms; multiple steps; moments of jubilation, revelation, and exasperation … The dance of interpretation is a dance for two, but those two are often multiple and frequently changing, and there is always an audience, even if it is not always visible. The dancers are the interpreters and the texts.' (Miller & Crabtree as cited in Schutt, 2012:323)

5.1 INTRODUCTION

In this chapter, a discussion of the qualitative research findings is presented to link the research questions to answers. This study explores the views and experiences of students, graduates, tutors and institutional management members in relation to how blended learning should be used in higher education to enhance quality employability development. Accordingly, multiple cases were studied to 'explain', 'describe', 'illustrate' and 'enlighten' participants' real world experiences (Yin, 2014:19). Individual semi-structured interviews were virtually conducted with graduates and students at times suitable for them. Electronic qualitative questionnaires were conducted with tutors and institutional management. The interview questions for graduates and students are attached as Appendix H and Appendix I. The electronic qualitative questionnaires for institutional management and tutors are attached as Appendix J and Appendix K. Individual interviews and quantitative questionnaires were supplemented by written e-mail interviews when more detail was required and were supported by document analyses according to its reliability, integrity and representativeness (Punch & Oancea, 2014:207; Savin-Baden & Major, 2013:408).

5.2 DATA PRESENTATION

The qualitative research design allowed the researcher, through exploration and discovery of new thoughts about groups, processes, and activities, to gain insight and understanding from participant views and experiences of their real-world settings to generate theories about its operation (Creswell, 2015:16; Creswell, 2015:546; Burke Johnson & Christensen, 2014:18) as discussed in section 1.8 and 1.8.1. As generalisation was not the purpose of the study, the data

collection and analysis from the multiple cases studied were examined in totality and the different cases were compared in a cross-case analysis for similarities and differences through social constructivist interpretations.

The multiple cases selected were discussed in section 4.4.1.1, which included an outline of participants in Table 4.1, and in Table 4.2 the code names used for participants were included. For the purpose of differentiation and comparison, participants on the American research site were denoted by a *US* in their code names, and participants on the South African site were denoted by an *SA*. The four cases, which consisted of graduates, students, institutional management and tutors, were coded as follows: American graduates were G1US, G2US, etc. South African graduates were G1SA, G2SA, etc. American students were S1US, S2US, etc., and South African students were S1SA, S2SA, etc. Management members on the American site were M1US, M2US, etc., and management members on the South African site were M1SA, M2SA, etc. Tutors in America were coded as T1US, T2US, etc., and in South Africa T1SA, T2SA, etc.

As the findings could not be predicted or explained in advance, the researcher redesigned some interview questions sent as e-mail questions to participants, to develop a deeper understanding and to discover more of what participants were saying. This is attached as Appendix L. Drawing from an inductive emerging and developing analysis strategy, using the personally collected and analysed data gathered from participants, patterns and interrelationships were discovered to generate codes, themes and categories. The researcher analysed the data according to Creswell's "data analysis spiral" (Creswell, 2013:183) as described in 4.4.3. Electronically transcribed individual interviews, qualitative questionnaires, and e-mail interviews were analysed and the coding of concepts started, using the exact wording of participants via in-vivo coding to create themes (Burke Johnson & Christensen, 2014:596). An example of a completed questionnaire and transcribed interview is attached as Appendix N and Appendix M. Continuous exploration, using analytical thinking and reflecting on the data collected, assisted the researcher in generating an explanation and constructing predictive evidence about the views and experiences individuals expressed in this study. Theoretical saturation occurred when all themes were well developed and further analysis added no new information or emerging concepts (Burke Johnson & Christensen, 2014:461).

Due to a lack of research found in South African higher education regarding:

- the use of blended learning to enhance student employability development through formal learning;
- graduates' displayed skills and personal qualities;
- opportunities and support for students to design, express, display and reflect on their acquired knowledge and skills in an integrated way;
- empowering tutoring staff and institutional management with digital literacy skills; and
- ensuring assessment and learning are closely linked to real-world and workplace circumstances,

findings from this research were compared with data and findings published in the following sources:

- *The global competitiveness report 2013-2014* (Schwab, 2013:10-346)
- *The global competitiveness report 2017-2018* (Schwab, 2017:12-268)
- *Student perceptions of employability and inclusive development: South Africa* (British Council, 2015:1-16)
- *National Youth Policy 2015-2020. We are generation 2020. We don't want a hand out, we want a hand up!* (National Youth Policy, 2015:2-28)
- *NMC Horizon Report: 2016 Higher Education Edition* (Johnson *et al.*, 2016:6-46)
- *New vision for education. Unlocking the potential of technology* (World Economic Forum, 2015:8-23)
- *Unemployment, youth total (% of total labor force ages 15-24)* (World Bank, 2015:1)
- *Transformation is a must. Briefing paper prepared for the second national Higher Education Transformation Summit 2015. South African Union of Students* (SAUS, 2015:1-6)
- *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century* (National Research Council, 2012:1-4).

Themes, categories and subcategories portray the findings of the research and these are discussed in the next section.

5.3 DEVELOPMENT OF THEMES AND CATEGORIES

Using qualitative data analysis as described in section 1.8 and 4.3, the raw data collected by means of the four data collection methods were analysed to develop themes, categories and subcategories grounded in the theoretical framework drafted in section 1.6. The aims of the

study, as discussed in section 1.7, shaped the creation of themes, categories and subcategories to organise and group the raw data accordingly. Categorising the raw data in Table 5.1 assisted the researcher in discussing the research findings outlined in section 5.4.

Table 5-1: Themes, categories and subcategories

THEME 1	**5.4.1 TWENTY-FIRST CENTURY TEACHING AND LEARNING**
Category 1	5.4.1.1 Technology-immersed society: *"Technology is what moves the world forward".*
Category 2	5.4.1.2 Technology learning versus traditional learning: *"Timely, relevant and holds student attention".*
Category 3	5.4.1.3 Blended learning versus fully online learning: *"Blends of learning are always more successful than fully online models".*
Category 4 Sub-category 1 Sub-category 2 Sub-category 3 Sub-category 4 Sub-category 5 Sub-category 6	5.4.1.4 Experiences and expectations: *"Learning is a multi-faceted process which involves more than communicating knowledge to students".* • Quality assurance of teaching-learning content • Interaction with others • Institutional administration • Technical and student support • Tutor suitability and training • Challenges
Category 5	5.4.1.5 Teaching-learning styles: *"Drastic differences when comparing online teaching to classroom teaching".*
Category 6	5.4.1.6 Understanding and applying learning for practical purposes: *"It takes a while to get used to an online class".*
THEME 2	**5.4.2 STRENGTHEN STUDENT GRADUATENESS**
Category 1 Sub-category 1 Sub-category 2 Sub-category 3	5.4.2.1 Twenty-first century expectations of employability: "The markers for success do not change from generation to generation". • Workforce needs • Career-focused skills • Employability curricula
Category 2	5.4.2.2 Graduate qualifications and employability: "Students are stuck between a rock and a hard place upon graduation".
Category 3	5.4.2.3 Technology integration to advance employability development: "Technology learning is closely tied to employability skills".
THEME 3	**5.4.3 INSTITUTIONAL GUIDANCE AND SUPPORT**
Category 1 Sub-category 1 Sub-category 2 Sub-category 3	5.4.3.1 Student support in making career decisions: *"Very necessary part of our students' success".* • Setting students' educational goals • Career assessment • Endorsement of career-readiness
Category 2 Sub-category 1 Sub-category 2 Sub-category 3 Sub-category 4	5.4.3.2 Assisting students to find employment: *"This should be an institution-wide mission".* • Career development advisors • Faculty • Student placement and mentorship • Employer collaboration

	Career networking *Employer advisory boards* *Job fairs* *Volunteering*

Table 5.1 illustrates how the raw data collected from the virtual and e-mail interviews, questionnaires, and documents reviewed as discussed in section 1.8.3 and 4.4.2 were analysed and developed into three main themes, eleven categories and sixteen subcategories. With reference to the table, using a blended learning approach to manage the quality of employability development in higher education was affected by three main themes, namely: (1) 21st century teaching and learning; (2) strengthening student graduateness; and (3) institutional guidance and support.

The three main themes guided the emergence of categories and subcategories. The first theme included six categories, namely: (1) Technology-immersed society; (2) technology learning versus traditional learning; (3) blended learning versus fully online learning; (4) experiences and expectations; (5) teaching-learning styles; and (6) understanding and applying learning for practical purposes. Subcategories included are: (a) Quality assurance of teaching-learning content; (b) interaction with others; (c) institutional administration; (d) technical and student support; (e) tutor suitability and training; and (f) challenges.

5.4 FINDINGS OF THE STUDY

The results obtained from analysing the raw data were organised into themes, categories and subcategories (as illustrated in Table 5.1). These were applied as main headings and sub-headings in the discussions below. In the discussions of the findings, relevant verbatim accounts were selected to clarify participants' interpretations and personal meanings and to emphasise some research findings (Creswell, 2015:16; Burke Johnson & Christensen, 2014:36-37).

5.4.1 Twenty-first century teaching and learning

Millennial employees grew up with technology and have had lifelong access to the internet; they expect development to take place at a fast pace and want to drive their own development processes. Combined with the global increase in student enrolments, growing numbers of inadequately equipped graduates in already congested job markets, and the quality of teaching

and learning environments as per the discussion in section 1.1, it is evident that technological interaction with a strong tutor presence, constructive feedback, and participation with the integration of face-to-face facilitation signified positive skills development experiences, as discussed in section 1.2.

An American graduate stated that *"Learning with technology really encourages you to be self-sustained and independent, which is what you will do when you work"* (G5US), and a South African student said, *"When I don't understand something there is always someone to help. I start with my peers…if we all don't understand our facilitator assists during face-to-face classes"* (S1SA). The notion of freedom and independence in 21st century learning strategies has the potential to increase motivation and better engagement with learning matter (Johnson *et al*., 2016:28) which was supported by an American student that said, *"The benefits are great…really convenient…I can work and study to have a real world feel of things…it gives freedom and flexibility that today's fast world needs"* (S1US), which was supported by a South African tutor that said *"Integrating technology into learning enables us to make learning more fascinating and to easy connect with students"* (T3SA). The need for freedom and flexibility, to have current and relevant learning materials, to have tutors who are up to date with technology, to have access to materials, instant feedback and for higher education to stay relevant was discussed in section 1.5, an American manager M4US said,

> *…higher education must both utilize the learning methods that students are familiar with and teach them to be ready for a technology-immersed workforce. Students use technology for most elements of life, and in order to remain relevant, higher education must embrace it.*

It is therefore evident that technological advancement has brought new methods and ways of how adults learn and want to learn, and is not only influencing the context of learning but learning itself. In building a vision for 21st century higher education, a one-for-all teaching and learning approach does not suit the needs of society today, witnessed from both participants' perspectives and the documents analysed (Merriam & Bierema, 2014:1; Klein, 2012: xiii; Kalantzis & Cope, 2012:11). It is noticeable that American and South African management members, tutors, graduates and students in this study acknowledged the use of technology to advance adult learning. This will further be discussed in the sub-categories below, included as, a technology immersed society, technology learning versus traditional learning, blended

learning versus fully online learning, experiences and expectations, teaching-learning styles, and understand and apply learning for practical purposes.

5.4.1.1 Technology immersed society: "Technology is what moves the world forward".

Literature studied (section 1.1, 2.2 & 2.3.1.5), and data from qualitative questionnaires conducted with management members and tutors, and interviews conducted with graduates and students on both the research sites revealed the role technology plays in everyday life, both in and outside the formal practices of work and study. The indispensable necessity of technology use is highlighted by all participants, and expressed by an American graduate as *"…we use technology every day for something"* (G3US). The extended uses for graduates and students stretched from work and study into social interactions on different social media platforms, navigation purposes, job hunting, doing research, for business and banking, to do online buying and selling, for e-mail correspondence, monitoring child safety and for entertainment downloading music and editing software applications. Graduate G5SA in South Africa said, *"I mostly use google and social media to be current with things happening worldwide".* Whereas student S2SA said *"I use technology for job hunting, banking, shopping and downloading movies".* An American student, S4US said *"I use technology for everything, from Skyping my family, to get work done, for navigation and more",* and graduate G5US said *"I use technology to monitor my child's safety, cooking, e-mails…".*

For management members and tutors it is evident that technology is not merely a device used as an instrument, but has permeated every aspect of society. A South African tutor stated that, *"Technology plays such an important part in our everyday lives, that it cannot be ignored"* (T1SA), which was supported by American tutor T3US that, *"Technology is what moves the world forward"*. In support South African manager M1SA stated that, *"I don't think we can do without using technology anymore",* and *"In today's world, technology is imperative"* (M2US). However, American manager M3US referred to, *"Technology is a tool. How, when and why we use it is key".* Laurillard (as cited in Scepanovic *et al.*, 2014:373) remarked that, 'education could easily be side-tracked into the inappropriate uses of technology if we are not clear what we want from it'. This statement was supported by manager M3SA that, *"Technology learning is interactive and fun, but frustrating for those who lack basic computer skills".* In line with this statement was the findings in Van Tonder (2015:121-125), supported by Tandoh, Flis and Blankson, (2014:22-23), that the lack of computer skills and online experience might pose challenges.

Graduates and students on both research sites indicated that they spend anything from one to four hours and sometimes more per day engaging in some form of academic interaction with technology, depending on what other responsibilities they had, the quality of research they had to do, difficulty levels of subjects and the number of subjects they were doing. One South African graduate said *"…if it is a difficult module I will go through the night"* (G5SA), and an American student stated that *"…on difficult semesters I study pretty much 24/7"* (S4US).

The undeniable and distinct use of technology in everyday life, as highlighted by participants in this study aligns with Asonitou (2014:283) and Johnson, *et al.* (2016:22) that the role of social media and the pace of technology development enable students to access information wherever whenever and ensures knowledge workers to soon become the dominant group. Technology advancement in higher education, both in developed and developing economies are placed as a driver for economic recovery (Beetham, 2013:269).

5.4.1.2 Technology learning versus traditional learning: "Timely, relevant and holds student attention".

Analysing the raw data from graduates and student participants across cases, when asked why they have decided to enrol for studies using technology, their decisions were influenced by convenience, more modern trends, their needs to be versatile, to work and study simultaneously and learning with technology were reported more appealing than face-to-face classes. American graduates G2US reported that, *"…because I find it easier, more appealing to me",* and *"I wanted to be more hands-on and needed to be versatile following more modern trends"* (G1US). South African students S2SA said, *"I wanted to be more advanced and getting more skills"* and *"it prepares me for the workplace and promotes independent learning"* (S1SA). However, some graduates and students on the American research site reported that they did not specifically choose technology learning: *"It was just offered at the institution I went to"* (G5US), *"…it was just kind of there, almost every college in my area use it"* (S1US), and *"…we do not really have much of a choice, technology is incorporated in the education system today"* (S2US). Graduates and students on the South African research site intentionally sought alternative learning opportunities: *"…we were going to use technology, tablets, computers and no more huge textbooks"* (S3SA), and *"…we went to be prepared for the workplace…gaining more confidence…without a lecturer spoon feeding you"* (G3SA).

The views of management members and tutors across the board confirmed what Mazoué (2013:30) and Wang and Storey (2014:251) had found on technology learning in higher

education: *"Timely, relevant and holds student attention"* (T3US). It is more flexible, with multiple means of accessing learning content, increased student engagement and interaction, a closer link to the workplace, more open-minded, attractive to more learning styles, easier from a grading point of view, it provides a competitive advantage, and it is driven by stakeholder demands. In light of the above, managers rightly remarked that *"…as a worldwide community of educators in the 21st century, we will do a disservice to students should we exclude opportunities for technological learning in our teachings"* (M2US), and *"… in order to remain relevant, higher education must embrace technology learning"* (M1SA).

Both technology and face-to-face learning have their place in higher education (Lane, 2016:47), discussed in section 2.7.1.2. *"Technology cannot fully replace the interaction between instructor and student, …a mix of the two is very helpful"* (T6US). *"Technology learning is more visual…they [students] teach themselves and when we meet face-to-face I fill in the gaps"* (T3SA).

The views of graduates and students were that learning with technology can be challenging when compared to the intimacy offered by face-to-face learning, as was explained by an American graduate: *"I want to learn from the energy I get from a professor…that personal connection for me is very important"* (G1US), with a South African student adding that *"Technology alone will not work for me…I need the on-campus support"* (S3SA). It is therefore evident that direct, personal and immediate access to a tutor for purposes of clarifying and explaining complicated concepts is key. American graduate G2US explained:

> *I found it easier when an instructor was giving a lecture. I could sit and listen, and he explained in a way I understood. In Economics when I read about supply and demand for instance, I'm not gonna [sic] grasp it until someone tells me and give examples how supply and demand works. I don't like distractions around me like with online. Online you can go more into detail and I get distracted easier.*

A South African graduate preferred physical tutor interaction: *"…with technology it is different…it is not nice when you have to do everything…in class you just ask for an explanation when you do not understand"* (G2SA). American tutor T5US supported this view, and explained this preference:

> *I prefer completely [sic] face-to-face interaction for Introductory subjects into students' major. For Accounting, leading to Financial Accounting, then into Managerial Accounting, I prefer face-to-face. After that knowledge, students can generally do well in a blended program [sic].*

Those who prefer technology to physical class attendance revealed slightly different reasons for their choice. American student S3US felt that, *"I prefer online classes as opposed to face-to-face…just because there is a lot of time waste with face-to-face classes",* and South African graduate G3SA stated that, *"Unfortunately in face-to-face, only one facilitator explains everything, and you do not understand, but are too shy to ask".* Another South African student (S1SA) explained that, *"We only go to class for the grey areas, I can google stuff or ask another student. I don't need to have face-to-face classes"* (S1SA).

Graham, as cited in Tandoh *et al.* (2014:21), and some of the participants agreed that face-to-face learning with the integration of technology is often considered 'the best of both worlds'. Blended learning versus fully online learning is discussed in the next section.

5.4.1.3 Blended learning versus fully online learning: "Blends of learning are always more successful than fully online models".

Blended learning as discussed in section 2.7 is seen as a variety of online learning options available via a technological platform, blended with face-to-face learning, and it is one of the fastest growing trends in higher education globally (Lane, 2016:47; Morrison, 2013:1). An American tutor (T4US) offered the following considered explanation of the benefits:

> *There is a very broad scope with regards to blended learning models. As a matter, of course, I believe that they are always more successful than a fully online model, as they can be designed to provide a solid and supportive mix of interpersonal skills (classroom), collaborative use of technology (synchronous online sessions), independent research, study and assignment completion (asynchronous online work).*

American management and tutors experienced blended learning as *"…the best of both worlds, while also mitigating the less desirables of both worlds"* (T5US), and *"It gives students what they want, which is the flexibility of online learning but also to meet once or twice face-to-face".* South African managers and tutors approved of the, *"… variety of teaching methods and*

assessment tools available that creates an interest as not every lesson is the same" (T2SA), and *"Students take more accountability and responsibility for their work when they have to prepare online activities to present during face-to-face discussions"* (M3SA).

Graduate and student participants were clear in their views of blended learning. An American graduate and student said, *"I am a fan. I absolutely liked it"* (G2US), and *"I am accountable for my own learning"* (S2US). South African graduates and students were equally specific in their views: *"I don't know how to explain, but I think I like it, it makes it easier for you…according to your individuality…it is VERY interesting!"* and *"I think very highly of it…I will recommend other colleges to use it as well"* (G5SA).

Some participants preferred the convenience of fully online learning when having to travel or work in different geographical areas, unable to attend a face-to-face class. An American graduate revealed that, *"I did an entire honours degree online and built a prototype mobile application with four students in different parts of the world"* (G4US). It seems likely that blended learning, fully online learning and face-to-face learning will continue to exist to accommodate the needs of individuals and the demands of the programmes enrolled for. American manager M3US reiterated that *"Students will continue to be hybrids as they move through the multitude of college and training options throughout their academic and career pathway".*

The analysed data clearly indicate that the availability of emerging technologies has allowed blended learning to become an option that offers immense and diverse potential in adult learning environments as discussed in section 2.7.1. Blending various teaching and learning approaches not only provides tutors with the opportunity to prepare, equip and empower 21st century students for the 21st century workplace, but indicates that blended learning is an effective approach for skills and knowledge development (Tandoh *et al.*, 2014:18-22).

5.4.1.4 Experiences and expectations: "Learning is a multi-faceted process which involves more than communicating knowledge to students".

When the data across the cases were compared to determine the experiences and expectations management members, tutors, graduates and students have of learning in blended environments, it was found that participants described more modern learning approaches with more appropriate learning results wherever technology was incorporated in their learning. This concurred with Lane (2016:47), whom concluded that interaction with technology and the

added values that technologies offer, combined with a strong tutor presence, constructive feedback and participation, and a measure of face-to-face facilitation demonstrated positive learning experiences. A South African management member (M2SA) reported that

> *Blended learning is not only the use of technology and face-to-face teaching, but enriching the learning experience of students with added teaching techniques, like conducting presentations in class, self-learning and the use of learning games. Students get the opportunity to do more than just learn to pass an exam.*

This view was shared by an American manager (M4US):

> *Learning is a multi-faceted process which involves more than just communicating knowledge to students. Students must understand and apply that knowledge in order to really learn. Using technology in blended learning can make application relevant to students' lives. It [blended learning] definitely has a place in higher education, it is effective, accessible and preferred by students in most cases.*

Deep and meaningful learning experiences as discussed in section 2.5 and section 3.3 is not about technology per se, but about the remodelling of learning materials, teaching strategies, flexibility, interaction, student support and well-constructed learning activities (Van Tonder, 2015:27; Noroozi & Haghi, 2013:1; Schwartz & Schmid, 2012:228). A South African tutor explained (T1SA):

> *If blended learning is used correctly it is beneficial to students. Students play a more active part in the learning process. A variety of teaching methods and assessment tools can be used which creates an interest, as no lesson is the same. I no longer stand and talk while students drift off. We do YouTube clips and have discussions afterwards.*

American tutor T6US reported on the experiences of blended learning:

> *Using both traditional lectures and technology is helpful. Technology allows younger students to work in a way that they have become most*

> *comfortable with and the lecturer allows for a focus on the content that might have been missed, or needs further clarification.*

From Knowles's writings on andragogy and adult learning approaches, David Kolb's (1984) experiential learning model, and Dewey's (1938) theories of learning (discussed in section 2.3.2) all demonstrate that adult students prefer to take control, make sense of, reflect, improve, reshape and refine their own learning to become more independent, self-directed, lifelong students that are internally motivated (Knowles *et al.*, 2015:43-47; Merriam & Bierema, 2014:31). An American student (S2US) remarked: *"It is how you want to learn, how you prefer to do things, where you want to go"* and discussed in section 2.6. Graduates and students on both research sites had experienced self-directed learning and technology:

> *Technology [learning] allows you to teach yourself. It becomes a matter of self-discipline. In face-to-face the teacher has his way of teaching and way of doing. Online provides the advantage to learn your way of learning where you are accountable because you are teaching yourself (S2US).*

South African graduate G1SA explains his perception:

> *Blended learning is not about going to class and being spoon fed information then go home. I have learnt about myself, I know how to present and sell myself. I'm not only book smart with content. In face-to-face there used to be less interaction. If you didn't want to say anything in class you kept quiet, but with blended learning, it contained problem solving and teamwork. We had to interact, and that developed us as students.*

Participant experiences demonstrated that the Knowledge Age challenged them to adjust their way of learning beyond active and self-directed learning to creating and constructing knowledge through innovative methods by means of collaboration and communication with others to create meaningful learning experiences.

Adult students' experiences, as discussed in section 2.3.2.1, shape their learning, positively or negatively. The experiences of participants when using an online learning platform are discussed below to include the quality of teaching-learning content, interaction with others,

institutional administration, technical and student support, and challenges that were encountered.

- **Quality assurance of teaching-learning content**

Being able to view students' online learning platforms, as discussed in section 2.8.2, allows the presenter of the content to monitor information on student behaviour, their learning style preference, cognitive abilities, engagement in online activities, and which activities are experienced as more demanding (Van Tonder, 2015:14; Starkey, 2012:99). Real-time access to all this information is a benefit that is absent in the face-to-face context: *"The online platform allows facilitators to access and evaluate student submissions at home and you can share additional resources with students".* Another benefit for both tutors and students were that students could engage with learning materials available online and come to class prepared. Students can build on their own knowledge by watching videos and listening to lectures, develop an idea of the content to be covered in class and, in some cases, have already solved problems and answered questions (Tandoh *et al.*, 2014:22). This was substantiated by a South African management member who said, *"It encourages preparation as students miss out on valuable discussions and cannot participate if they have not pre-read the work"* (M3SA).

Yet, participants' views were varied and diverse. Graduates and students on both research sites generally reported positive experiences of the quality of content, the use of e-books, doing quizzes, online tests, problem solving, and the assistance they received when transitioning from abstract concepts to concrete understanding. They experienced online materials as consistent, easy to navigate, informative and well-summarised. American student S3US remarked that, *"I really like it. We use [name of platform] where everything is easy to find and pretty uniform and consistent",* a perspective shared by American student S2US, who noted that, *"It depends how the teacher sets up the class, but for most part it is pretty easy to follow material".*

Some graduates and students on the American research site reported that the quality of online materials varied from tutor to tutor, depending on the curriculum and the classes offered. American graduate G1US said, *"I wish it was more streamlined for professors across the board…one professor does it this way and another does it that way…that grieves me…".* Another American graduate found that, *"Some online classes were disorganised, out of date and links did not work. I panicked when I ran into that. Yes, I loved it, but I panic when it*

doesn't work" (G2US). Another student (S4US) reported that *"Unfortunately the quality of the content on the online site isn't really good",* and student S1US remarked that

> *The e-books are really high quality and I appreciate that. But for the videos and interactive stuff it's not nice…I think it is a little under par and it could be better. But I also can't complain because I still learn from it.*

Graduate G1US suggested training:

> *I know it's difficult when you work with doctors and professors, but each year they [management] should say to them [tutors], we gonna [sic] have a training session for you to teach you how to be consistent.*

Compared to the views and experiences of American graduates and students, South African participants considered the quality of teaching-learning content to be generally good:

> *The information was summarised on the platform so you did not have to read an entire book with unnecessary information. They [tutors] pointed out important things that would come out in your exam…that was helpful. Videos were exciting and interesting to get a clearer understanding (G1SA).*

Student S3SA reported on the quality of videos, presentations and e-books:

> *Presentations were good. We can also download the e-books on our phones which was helpful to read when travelling to classes. When you download an activity it [platform] asks you if you understand the topic before it [platform] allows you to continue an exercise. If you answer 'no' you have to seek assistance from your facilitator before it [platform] allows you to submit.*

Although South African graduates and students reported favourably on the quality of teaching-learning content, graduate G3SA complained that *"There were no videos loaded…if you wanted videos you had to download it from YouTube",* and student S3SA remarked that *"There are challenges depending on the links and websites you use".*

Tutors, graduates and students on both research sites also reported on the difficulties of using e-books. An American tutor said that *"Students need to know how to read and manoeuvre around e-books"* (T8US). Some reported that they preferred to have the physical textbook available to highlight and do cross referencing, which they found difficult to do online. American graduate G3US notes that *"I learn better when I have paper, and I like to have an actual book that I can write in and highlight"*. A South African graduate reiterated this preference: *"I prefer studying out of a textbook because I want to make notes, highlight and fold a page to go back at a later stage"* (G5SA) and South African student S1SA said that *"I found it [e-books] hard, because I am not used to that".*

For tutors on both research sites the importance of content was emphasised and South African tutor T1SA reported that *"Some presentations are of a poor quality and some videos have poor sound quality…depending on websites and sources used",* and American tutor T4US said, *"If faculty and/or course developers do not take time to pull out, or create high quality content the course suffers"*. Tutors agreed that online content is used to present data in more interesting ways and the online condensed lectures assisted students to refresh and reflect in their own time, which kept them focused on the material they needed to master. Students who experience difficulties with understanding new or demanding information have the benefit of repeated engagement with content in their own time, with the additional resource of online collaboration to clarify concepts (Tandoh *et al.,* 2014:22).

Management members generally viewed the quality as good, interactive, relevant and accessible for a variety of students. Manager M1US noted *"If tutors and students use all the online resources adequately, learning can be reinforced in many different ways".* A South African manager said that *"The online platform allows access to materials and activities on different devices and from different locations"* (M1SA).

> *In a world of social media, students are sometimes surprised at the online content included in their academic courses as they do not always view academic content as being quite as engaging compared to other online content. However, I believe some content contains information that they would not typically seek out in their everyday social media-based lives (M2US).*

Academic quality and content, according to one American manager *"…is one of, if not the highest, priority when teaching any range of students"* (M2US), which correlates with the findings of Sogunro (2015) discussed in section 2.6: the two most important motivating factors for adult students are the quality of programme delivery and content, followed by the significance and practicality of learning and the importance of collaboration and effective administration.

- **Interaction with others**

Online collaborative learning as discussed in section 2.3.1.5 is seen as the driver for higher education transformation and focuses on collaborative learning, knowledge building, and the use of technology to reshape and rethink adult teaching and learning for the digital age (Harasim, 2012:80). The tutor fulfils an important role in leading and linking the student to constructing knowledge through active participation and discussions:

> *Those are weekly assignments where the teacher gives a writing prompt or question on the course material and you have to write a 100 to 300-word response to that, and reply to two other classmates' answers (S2US).*

This draws on Vygotsky's social collaborative theory for knowledge construction which suggests that social interaction transforms learning experiences and all higher order skills originate in the social environment (Vygotsky, as cited in Schunk, 2012:243). Social collaborative learning with technology provides opportunities for tutors to identify and recommend corrective action and encourage self-directed learning (Merriam & Bierema, 2014:208; Sharpe & Pawlyn as cited in Beetham & Sharpe, 2013:38).

> *Discussion forums are necessary for creating a positive, connected, realistic rapport with students and co-tutors. Initially students find it daunting and unfamiliar, but once they are used to the formatting the discussions become very open, honest and real. This is due to the nature of being able to formulate thoughts, questions and responses from the comfort of their own homes (M2US).*

A South African managers added that *"Discussion forums are convenient, quick to respond to, and sometimes students answer each other"* (M3SA). *"Some tutors use online discussion platforms to keep contact with students outside the classroom"* (M5SA).

Online discussion forums were included on the American online learning platform and performed a more prominent function in comparison to the South African research site where online discussions consisted of groups of participants that connected via *WhatsApp* and *Google Classroom* to communicate and have discussions. Tutors on both research sites agreed that learning is created through interaction and discussion where students develop their own understanding and knowledge through real-life experiences (Harasim, 2012:7; Schunk, 2012:23). Discussion forums were viewed as useful, depending on the setup, as it assisted with identifying students' understanding and analysis of concepts, their critical thinking skills, how they engage with others, and the quality of submissions. American tutor T8US noted that it offered valuable insight into students' views and thoughts:

> *This helps the instructor to judge how much the students are absorbing data and to see where their methods are working or not working…students get to know and learn from one another, and it is convenient when assistance is needed and someone is online.*

A South African tutor said that *"Discussions are interesting especially when everyone is participating"* (T3SA), and *"…it is engaging and supportive even away from campus"* (T5SA).

However, tutors and managers on both research sites lamented the reluctance of student participation, that individual discussion posts were time consuming to read and grade, that students did not appreciate the value of online discussion forums and prefer other learning tools. American tutor T6US concurred by adding that *"Some students really use them [discussions] to learn concepts, but the bulk don't take discussions seriously…they see them as busy work and procrastinate to reply to comments";* furthermore, *"Students hate discussion forums because it makes them think. It is not just answering with a predetermined answer – they must use the data learned to form their individual thoughts"* (T8US). An American manager added that, *"Students see this as just something to be done. Not really effective engagement or learning"* (M3US). These views were supported by a South African tutor who said that *"I find this a challenge when students do not offer their opinions, and it is always the same students contributing"* (T1SA), and was backed by a South African manager who said that *"Students are lazy to participate unless it counts for marks…they often find discussions difficult"* (M5SA).

It is evident that students need a comfortable environment for discussion according to their needs and preferences, and where adult students have little control over their learning and the learning is isolated and unsociable, learning outcomes are less favourable (Schulz & Roβnagel, as cited in Raemdonck, Meurant, Balasse, Jacot & Frenay, 2014:79). American graduates and student participants viewed the discussion boards as forced, generic, easy marks, and not much interaction. They felt that the discussion board was not clearly marked and students wanted to use something different to an online platform. American graduate G1US explained that

> *Many times students will post a discussion and there would be no answers or the conversation will not continue, even from the professors. It is difficult to just dive in and grade a comment that is forced. It is more like an activity you have to do and there is no preliminary feedback. I would have loved to see some sort of notification message on the system we used, that when someone has responded to a post you get notified. I mean, in this kind of world we get notifications all the time.*

Others commented that they had no problem with using discussion forums if everything worked and some participants remarked that they enjoyed rating responses. American student S1US responded that *"…it [discussions] feels like social media and it is interactive but it doesn't feel interactive. It is not the same as having a conversation in class"*. American graduate G2US commented that *"It is not perfect, and no one really enjoys it, but that's what we have, and the only way we can have a discussion online".* American student S4US felt that *"Discussion boards are the worst part of class as you have to rely on classmates to respond to posting before you can submit assignments, and that creates negativity".*

South African graduate and student participants who used social media platforms to form discussion groups commented differently. They interacted with each other and their tutors on a more personal level; they were unafraid of asking questions, shy students felt more at ease, it was easier to interact online compared to face-to-face interaction and students helped each other by sharing information, views and ideas. Graduate G1SA explained that

> *In our WhatsApp group we were able to interact on a more personal level and we were not afraid to ask questions…you were able to ask questions more frequently than in class. Some of us are not that comfortable speaking in class, then the WhatsApp group chat was easier and more informative.*

Graduate G3SA commented that *"…we exchanged different ideas and views, and what you did not understand you got from another student, and that is not easy to forget".* Another student S3SA shared this view and explained online interaction by means of social media platforms:

> *Google Classroom is a bit like Facebook because we can all write statements and we can all comment. You can also write a private email to your facilitator or post publicly where your classmates can comment, or where you can ask a question if you do not understand. When someone responds you get a notification just like Facebook or WhatsApp.*

Spontaneous, unstructured everyday learning, and the availability of social media technology applications, formal learning and acquiring new skills has become uncomplicated and can be achieved at any time and anywhere (Johnson *et al.*, 2016:22). This refers back to Vygotsky's work (as cited in Merriam *et al*., 2007:292) which held that social constructivist learning is constructed when individuals engage socially in dialogue and events: they learn better when their current views of knowledge is stimulated, tested, transformed and elaborated through interactions with others. Blended learning environments, which include formal and informal learning, allows for more modern ways of including intentional and unintentional learning (Merriam & Bierema, 2014:196). Aspin, Evan, Chapman, and Bagnall (2012:1iii), supported by Dede (2012:2), argue that adult learning should extend beyond formal learning environments into life-wide and life-deep learning, to embracing the social aspects embodied in humans.

- **Institutional administration**

Participants reported positive experiences and viewed institutional administration practices as overall effective. Management members and tutors on both research sites reported the availability of automated online grading of assessments and other functionalities such as viewing student attendance, and the ability to reach out to students online, as effective. Other benefits included functionalities for students to view their grades, access their syllabi with explanations on each subject, the minimum requirements for success, additional subject opportunities, and career information in their fields of study. American manager M2US reported that

> *Instructors use the online functions to keep up with grading, viewing attendance and to reach out to students. At [Name of Institution] students*

> *always view their grades and syllabus, minimum requirements and more on the online platform.*

For South African manager M3SA administrative issues included external factors such as power cuts, being unfamiliar with the platform, and time spent on training staff and students to use the online tools available: *"Facilitators and students initially find this time consuming and frustrating but as we have progressed they realised it is easier than traditional methods of teaching".* South African tutor T5SA supported this and added that *"Administration is sometimes difficult to manage and students do not find it easy when they are unfamiliar with the platform".*

American tutor T2US reported that, *"I like the automated grading for most part".* Most administrative matters caused frustration when students and staff were unfamiliar with an electronic learning platform and struggled with the format or were not adequately trained, and often became frustrated. Other matters related to online class scheduling and technology related incidents is discussed in the next section. However, as an American tutor indicated, *"…it all depends on how it is set up"* (T3US) and some tutors expressed the need to have more administrator rights and input, as *"[Name of institution] structures their online classes so the instructor cannot make changes besides answering questions and grading assignment. It limits our ability to change the class to students' needs in many cases"* (T8US). American tutor T4US stated that students *"…quickly become frustrated and angry if the platform does not do what is should, and tech issues on student computers that we cannot control magnify this".*

Graduate and student participants on both research sites experienced few long term administration related difficulties, and when they did, it was mainly at the start of a programme: *"…[I]t was hard at first, but fine afterwards"* (G4SA). South African student S3SA experienced frustration with the platform when grades, submissions and downloads did not show:

> *When you download books it does not show, you submit assignments on the platform and it does not acknowledge your submission, or your facilitator did not receive your submission. These things take up time. But when it works, it can be quick.*

American graduates and students highlighted the ease of paying for studies online, and that *"…the administration was very organized and upbeat. Students get clear hierarchy on who*

they should contact should they need something" (G5US). Graduates reported few administration issues usually experienced at the beginning of a semester. *"[Name of Institution] gives regular updates with good communication when things are gonna [sic] take place. A couple of times I had issues, but [Name of Institution] has been helpful".* When American students encountered administrative difficulties with their online platforms, *"...we get issued a desk ticket and they [Institution] get back in a timely manner, so you are not just left on your own"* (S3US).

- **Technical and student support**

In online learning environments, tutors fulfil roles as mentors and cheerleaders, assist with technical problems, provide reminders and updates on assignments, student finances, and more. The availability and advantage of having online student support, and administrative and technical support highlights the advancement of 21st century teaching and learning (Sogunro, 2015:32; Van Tonder, 2015:120). Tutor availability and assistance during the implementation of online learning, combined with other student support services are vital to sustain academic success and motivation. Aspects of management involvement, infrastructure, technology and technical support and supportive student advisors are essential to ensure sustainability. It was reported that prompt feedback and visibility, which was not generic and clinical, had a strong motivational influence on successful learning (Sogunro, 2015:32; Tandoh *et. al.*, 2014:22-24). American graduate G5US remarked that *"...there was always a student specialist to help and to follow up, and when you were behind in your classes someone will be in touch and offer help".*

American managers and tutors reported mostly positive experiences with technical and student support for online learning platforms and expressed the support students received from many sources. Students could use the available institutional support structures available, and American tutor T8US explained that

> *Instructors can find internet sources to help a student have a better understanding of difficult material. There are also whiteboards and more. Instructors can reach out to students usually without using the telephone or meeting with them. Students can also call on other students in the class.*

American manager M2US shared some wisdom:

> *It is important to create a personal rapport with students from the beginning of a course. When I respond to student communication and indicate understanding of life issues, students see me as more than simply a professor and more as a source of support. Part of my job is to provide guidance and resourceful information to enable students to help themselves.*

However, some managers and tutors reported that it depended on the tutor, as some were better at responding and assisting than others. It was mentioned that students did not always know who to contact for support. American manager M3US stated that the *"[f]aculty would love to see students have more support for tech issues non-related [sic] to content"* as *"…it is hard to locate someone with technical experience when students need it"* (T5US). Some tutors reported that online student support is time consuming when it becomes a one-on-one process. What makes it even more challenging is when instructors have several classes and many students, causing students to *"…easily get frustrated with poor customer support"* (T4US). In face-to-face classes, problems are discussed with an entire class, and students must possess the ability and self-discipline to reach out for assistance when needed.

For participants on the South African research site, online support was limited to class group discussions and social media forums outside the classroom. Face-to-face interaction was used to communicate students' online learning activities and to assist with support services. When students were unsure and needed online assistance, *"[t]here is a help button to click which direct students accordingly"* (T4SA), and *"[t]utors give feedback on the online platform and attach their feedback files for students to view their marked assignments"* (M5SA). However, manager M1SA reported that *"[t]here is a big need for student support and many students need extra help and guidance",* which was supported by tutor T1SA, who said that *"[t]here is not much student support".*

Graduates and students on the American research site outlined their experiences as supportive with acceptable turnaround times, particularly in the online classroom: *"…my online tutors really get back fast because they understand online students"* (S1US). An American graduate also stated that

> *There was always someone, or a student specialist to talk to. They were very attentive and helpful. They were always reaching out to support. There*

were follow-ups when you fell behind and someone will [sic] be in touch to offer help (G5US).

The availability of a 24-hour hotline assisted students with technical assistance, content matter or personal support. Furthermore, students were enrolled in a compulsory subject, namely Introduction to College, which included videos on online navigation, presentations and readings on different topics related to their discussion boards, online login details, technical and personal support services, and other assistance students might require: *"…you could call if there was any, but any [sic] issues. The support was there if I ever did need [sic] it".* American student S2US remarked that *"having a good information literacy skills set enables you to do stuff yourself".*

Student support services for graduates and students on the South African site was favourably rated for social media applications and face-to-face interaction with tutors and institutional management. South African student S1SA reported that *"[i]f you need assistance you go to your facilitator. We have a small room which is called a 'think tank' where we have individual sessions to share personal stuff".* This was reiterated by South African graduate G3SA, who found that *"[o]ur facilitators were very supportive, they always helped us".* However, the perception of student S2SA was that *"[w]e do not have support when we were at home as we do not have data and some of us do not have laptops or computers at home".*

Although some challenges were reported on both research sites, participants in this study generally reported positive student support experiences, which is highlighted as important for the advancement of 21st century teaching-learning (Songunro, 2015:32; Van Tonder, 2015:120).

- **Tutor suitability and training**

Using blended learning as innovative approaches in adult learning requires a paradigm shift for both tutors and students to acknowledge the demand for changing skills and the suitability of online tutors in a 21st century learning environment (Wang & Storey, 2014:257). In section 2.3.1.3, Rogers' (1969) (as cited in Knowles *et al*., 2015:122) explanation of the role of the tutor was related, and the personal relationship between tutor and student and the key role of tutors in students' learning successes were emphasised. American manager M2US remarked: *"I create a very personable rapport with students from the beginning of the course".* Acceptably skilled students rely on the quality of institutional teaching staff as discussed in

section 3.5.1. The higher students' expectations, the higher the need for tutor training, development, support and evaluation to meet current and future challenges when using technology to teach (Axmann, Rhoades & Nordstrum, 2015: xiii; Van Tonder, 2015:109; World Economic Forum, 2015:8). Manager M4US explained that *"[i]nstructors do not always feel adequately prepared to deal with online issues that may come up and they need further support and training with these type of issues".* According to Faulkner and Latham (2016:137), tutors need to have a different skill and mind sets, and unlearn much of the routine skills that are no longer significant when operating in a knowledge economy that uses information, technology and communication. This was explained by South African manager M3SA:

> *It is challenging introducing this [electronic platform] because they [tutors] have been conditioned to work and do things in the traditional way and resist this change. 'Chalk and talk' facilitators find it difficult to cope having more responsibility.*

This is in line with Dweck, as cited in Faulkner and Latham (2016:138), who postulated that tutors need to be more creative and flexible without having preconceived notions of what teaching will present. Manager M1SA stated:

> *There are facilitators who struggle to adapt to the electronic learning platform, especially the older facilitators. Some perceive WhatsApp groups or other class group chat forums as a breach to [sic] their privacy.*

As a different skills set is required when teaching with technology, broader selection criteria is needed when teaching staff are selected (Axmann *et al.,* 2015:18). South African tutor T4SA reflected that *"I am not doing it the traditional way, I am encompassing a lot of other techniques to impart knowledge". "If the lecturer is not tech savvy it can cause a problem if something happens"* (T1SA), which leads to *"…the frustration of not being able to have the direct help when you need it"* (S2US). According to Palmer (2007:1), "we teach who we are", and this was evident in feedback received from one American tutor: *"I truly do old school things and technology should NOT be the main part of the learning environment"* (T7US).

Axmann *et al.* (2015:20), proposed a support system of tutor-student and student-student social platforms with the potential to enhance academic and professional development. However, tutor T7US reported of online interaction: *"I think they help students to broaden their knowledge…but I never use them".* American graduate G4US thus proposed that *"[l]ecturers*

should be able to think outside the box and keep up with technology changes and student needs".

Though technology in teaching has evolved in recent years, tutors in higher education have to attempt to understand their new employment circumstances and what teaching in the digital age means (Scepanovic *et al.,* 2014:373), as discussed in section 2.7.2.2. Manager and tutor participants were asked how their institutions ensured online tutor suitability to encourage 21st century learning. All participants agreed that tutors needed to be comfortable with and specifically trained, and have real-world experience of utilising technology to teach and learn. American manager M1US stated that *"[o]nline tutors need to think outside the box when it comes to reaching their students"; "The wrong facilitator can make the entire online process unpleasant"* (M3SA). South African manager M2SA explained that

> *When we introduced blended learning, we had weekly training sessions and discussions with our tutors. We conducted class visits, student evaluations and performance reviews to ensure the expected output of blended learning classes.*

One American tutor said that *"[o]nline tutors need to be able to explain concepts in an easy and usable way. They must assume students have only the basic knowledge, and work their way to more difficult concepts".* In response, a South African tutor stated that *"South Africa is very behind in this field. There is a great need for more training and guidance to being an online tutor".*

It was evident that the suitability of online tutors was a concern on both research sites; not all tutors were acceptably equipped to promote more flexible and innovative teaching-learning strategies. With an increase in the popularity of technological modes of delivery, more collaborative techniques that include management assistance are required to provide training and development opportunities for online tutors (Hicks, 2014:269; Ke & Zhu, 2013:368).

- **Challenges**

The challenges often faced when learning with technology, as discussed in section 2.7.1.1, were also expressed by participants. Management members and tutors on the American research site commented on technical issues, lack of tutor response to students, and students' inability to ask questions in real time. Lack of online participation by students was lamented: *"[O]nline*

learning should ensure an engaging learner-centric experience, not just another platform for a correspondence course" (M3US) and *"unfortunately, technology is used for convenience rather than quality… maintaining quality and rigor in learning should be the only focus"* (T4US).

Other challenges included the implementation of simplified software for both tutors and students; creating an online learning experience that offers flexibility but resembles the synchronous traditional classroom as closely as possible; online distractions; different online systems employed by different faculties, creating confusion for tutors and students; complicated and confusing online textbook publishers; electronic grading of student work taking longer than manual grading; and the lack of online interaction when compared to face-to-face interaction. T8US described the experience:

> *As an instructor, I don't feel as close to the students as I do in face-to-face class. In class, I can see the student's expressions and know if they are understanding the material. With online classes I do not have that luxury. Students are less likely to ask questions in online classes the way they would in a face-to-face class. I feel a student loses that benefit with online classes.*

Although not mentioned by South African graduates and students, management members and tutors on the South African site remarked on language difficulties for non-English speaking students. Other challenges included students' lack of time management and procrastination, broken or inadequate technological equipment, poor network strength and internet connectivity, the cost of airtime and data for tutors and students, students in remote areas being unable to upload and download information, lack of or poor quality content, students' lack of information literacy skills or online experience, tutors' fear of and resistance to using technology for learning, online grading of student work being more time-consuming, plagiarism, and students copying work from each other. Tutor T1SA commented that *"[i]f lecturers are not tech savvy it causes problems when technical issues arise. It is also difficult to find the right resources for online teaching".*

The challenges mentioned by American graduates and students included frustration at not having immediate and direct assistance compared to face-to-face classes; graduates acknowledged lack of self-motivation and discipline; poor quality of sound and visual content;

absence and need for proper training in the use of an online platform; the transition from face-to-face delivery to blended learning; technical difficulties when systems needed updates without prior notice; quality of internet connectivity for students in remote areas; and the need for a protocol for online communication. S3US remarked that *"I think people sometimes forgot they were in a class and not on Facebook or whatever",* and S1US described misinterpretations and communication between student and tutor: *'You can type an assignment online in one way, and she [tutor] can mean another thing. It is the miscommunication between written and spoken words".*

South African graduates and students reported the transition from face-to-face delivery to learning with technology required more responsibility which they experienced as challenging at first. G1SA said that, *"…now we had to do most of the talking in class, we had to do presentations…eventually we got used to it".* Other challenges reported were tutors and students' fear of using technology for learning, lack of computer skills, not having an electronic device to access learning material, difficulty to upload work when the network was overloaded and or down, lack of adequate computer lab space, and the lack of experience using an online learning platform. Student S2SA said that, *"…we do not have Wi-Fi in our rural areas and to buy data is expensive".* According to the World Economic Forum (2015:19), access to quality technology learning with the necessary infrastructure has the possibility to provide learning at home away from a physical classroom, in remote areas across geographical barriers.

Evident from participants' feedback are the challenges they encountered when using a technological platform for teaching and learning. The challenges were compared and is outlined in Table 5.2 below:

Table 5-2: Challenges expressed by participants on both research sites

CHALLENGE	SOUTH AFRICAN SITE				AMERICAN SITE			
	MANAGERS	TUTORS	GRADUATES	STUDENTS	MANAGERS	TUTORS	GRADUATES	STUDENTS
Technical issues	•	•	•	•	•	•	•	•
Training to use online platform/Transition from face-to-face to technology	•	•	•	•	•	•	•	•
Poor network strength/internet connectivity for students in remote areas	•	•	•	•	•	•	•	•
Lack of online participation by students/ Preference for another learning/discussion tool	•	•			• •	• •	• •	• •
Poor quality content	•	•				•	•	•
Lack of self-motivation/discipline/responsibility			•	•			•	•
Grading students' assignment takes longer Individual feedback takes longer	•	•			•	• •		
Tutor training	•	•			•		•	
Lack of tutor response/assistance/feedback					•	•	•	•
Lack of real-time interaction					•	•	•	•
Simplified software for tutors and students/ More online administrative rights for tutors					•	• •		
Confusing textbook publishers					•	•	•	
Online protocol/Netiquette						•	•	•
Online distractions						•	•	
Online miscommunication							•	•
Different online systems for different faculties Online learning that resembles a more synchronous classroom experience						• •	•	
Cost of airtime/data	•	•	•	•				
Students lack ITC/online skills	•	•	•	•				
Fear of/ resistance to using technology (tutors and students)	•	•	•	•				
Broken devices/Students not having own device for learning	•	•	•	•				
Students lack of time management	•	•						
Language difficulty if English is not home language	•	•						
Plagiarism	•	•						

CHALLENGE	SOUTH AFRICAN SITE				AMERICAN SITE			
	MANAGERS	TUTORS	GRADUATES	STUDENTS	MANAGERS	TUTORS	GRADUATES	STUDENTS
Students copy from each other	•	•						
Inadequate lab space			•	•				

Table 5.2 illustrates that similar and different challenges were experienced in and across the four cases studied. Based on the comparisons made, the data presented in Table 5.2 revealed that all participants had agreed that technical issues, training on the use of an online learning platform, the transition from face-to-face learning, inadequate network strengths, and internet connectivity for students in remote areas were problematic. Other challenges experienced on both research sites included students' lack of online participation. Participants on the American research site expressed a preference for another discussion tool. Poor quality content, lack of self-motivation, discipline and responsibility, including the grading of online assignments with individual feedback took longer compared to face-to-face delivery. A need for the training of tutors to ensure they remain updated with technological learning was mentioned on both sites.

According to the data analysis and Table 5.2 participants on the American research site reported on the lack of tutor response to students, students' inability to ask questions in real time, the need for simplified software, and tutors expressed their need for more administrative rights to adjust online learning according to students' needs. Complicated and confusing online textbook publishers, online distractions, the lack of proper online etiquette, and misinterpretations of communication between tutor and student in online learning spaces were expressed. The inconsistency of different online systems used by different faculties and the implementation of an online learning experience resembling a more synchronous classroom experience, were highlighted.

South African participants reported on the cost of airtime and data, students' inability to use technology for learning, and their lack of keyboarding and online research skills. It was further reported that tutors and students fear and/or resist using technological devices for teaching-learning. Further problems were broken electronic devices and students not having their own electronic devices for learning. South African managers and tutors further expressed students'

lack of time management skills and procrastination, language difficulties when English was not their first language, plagiarism, and students that copy work from one another. South African graduates and students mentioned limited computer lab space as another obstacle to learning.

5.4.1.5 Teaching-learning styles: "Drastic differences when comparing online teaching to classroom teaching".

Individuals vary in their approaches, strategies and preferences regarding learning activities, depending on their individual learning styles as discussed in section 2.8 (Van Tonder, 2015:113; Knowles *et al.*, 2015:199; Killen, 2013:96). It is evident that the distinctive qualities of teaching and learning with technology, which include text, visual aspects, and sound, could simultaneously be accommodated in the technology classroom as discussed in section 2.8.2. American manager M1US said: *"I think technology is an amazing asset in the classroom. It helps cater to different learning styles".* Using technology to learn forces students to re-engage in learning to develop new skills and assume new roles (Farmer, as cited in Van Tonder, 2015:71) for deeper and more meaningful learning. South African graduate G3SA commented that

> *Technology learning is all about teamwork and studying by yourself, without a tutor spoon feeding you. You have more confidence to communicate with people as you have to explain what you have learnt to your tutors. It is basically preparing you for the workplace.*

Tutors, graduates and students on both the research sites mostly agreed that their teaching and learning styles had changed since using technology. Most tutors expressed that they were now less reliant on standard lectures as technology promoted individual, self-learning techniques. One American tutor said: *"I like it and the students like it"* (T8US). Tutors mostly reported that their teaching was more hands-on and visual, as *"I am encompassing a lot of other techniques to impart knowledge"* (T4SA). American tutor T4US reported that *"[t]here are drastic differences when comparing online teaching to classroom teaching".* The opportunity to have more discussions and group work were highlighted, as one South African tutor said: *"I no longer just stand and talk"* (T1SA). However, two American tutors remarked that their teaching style had always included the use of technology and they did not think that it had changed or was different because technology was incorporated.

American graduate G4US said *"I learn faster as visual video input lets me see things that otherwise would have to be manually drawn out. I can also research faster with online materials".* South African student S2SA reported that *"[i]n school it was only face-to-face, we stayed in one classroom and there were no variations",* which was supported by S1SA that, *"With technology there is full participation, you get much more than just reading a textbook".* Students described their learning as more interesting and diverse, they were more self-driven and disciplined, they found learning engaging with more interaction and team building, and they accumulated new skills sets. American student S1US remarked that *"I am a visual learner and most face-to-face classes were just busy work. With technology there is more interaction and it is hands on. There are a lot of things… websites with videos, some readings and games".* When compared to American student S1US, South African student S3SA remarked that *"I learn by listening, and I prefer listening to a facilitator than doing research on a computer only. I prefer being told what to do and bring presentations".*

It is therefore evident that, according to the CORD's teaching style dimensions by Arora *et al.* (2013:83) as discussed in section 2.8.1, students confirmed that their preferred teaching style was Understanding, as opposed to Rote, which entails memorising and remembering concepts and ideas without much understanding. American and South African students were found to be more Applied than Abstract in their choices of teaching style, where they could practically implement abstract ideas and theories through innovation and exploration. Students on both research sites furthermore preferred teaching to be more Enactive – where concepts are understood through the action of innovation and investigation than Symbolic – where understanding takes place through language. All participating students preferred a Cooperative teaching style – where they were included in discussions and could collaborate with others – over an Individual interaction teaching style. Learning with technology showed a positive correlation between learning style, knowledge retention, and learning experiences, where active learning strategies were implemented and students took control of their own learning.

5.4.1.6 Understand and apply learning for practical purposes: "It takes a while to get used to an online class".

Adult students have the ability to recognise, understand and control their own cognitive processes in order to anticipate, distinguish and correct skills deficiencies as they emerge (West, Hannafin, Hill & Song, 2013:133). These culminate from students' prior knowledge and experience and refer to metacognitive skills as discussed in section 2.3.1.2 and supported

by West *et al.* (2013:133), and Mayes and De Freitas (2013:20). From the research findings it became evident that, as students transformed, an increase in their metacognitive skills and awareness became particularly relevant in their learning with technology, and many cognitive perspectives could be adjusted (West *et al.*, 2013:133). Students were able to select and reshape information, formulate learning goals, make decisions and evaluate their own learning outcomes.

Participants on both research sites agreed that changing from face-to-face only instruction to a blended learning approach challenged their previous knowledge and experiences in different ways and taught them new skills. South African graduate G1SA said that they *"did not take the change positively…we had to do most of the learning…eventually we got used to this new learning style"*. South African student S1SA remarked: *"Coming from a rural area, not using a computer before is a big challenge".* Yet American graduate G2US found that *"[y]ou have to be patient, there is a learning curve to it and you will make mistakes"* and to *"[t]ake time to adapt to the system and adapt to the process of online learning"* (M1US).

The skills required for blended learning were highlighted by participants as research skills with the proper use of resources, being a self-starter with self-discipline and self-motivation, sufficient reading and writing, and time-management skills, and be able to submit assignments without being prompted:

> *Many students do not use their time wisely, both students in brick and mortar environment and online. Students who do online learning truly have to learn the time-management skill quicker than students who are in a brick and mortar environment (T7US).*

Access to dependable technology and computer skills – uploading and downloading documents, the ability to access tutorials, search, save and reference information, read e-books, and operate a keyboard – were highlighted. Other skills included oral and written communication skills, online etiquette, and problem-solving skills to successfully manage technology learning. Participants mentioned that many of the skills needed for technology learning were related to the skills needed to be employable. This is discussed as the next theme.

5.4.2 Strengthen student graduateness

The second theme included three categories, namely: (1) 21st century employability expectations, (2) graduate qualifications and employability, and (3) technology integration to advance employability development, which is discussed next.

It is evident that higher education globally is operating in an environment of continuous change and uncertainty, as discussed in section 3.2. Effectively managing quality, innovation and change is critical to the performance and competitiveness of higher education institutions. New approaches to address both problem-setting and problem-solving processes to strengthen the development of student employability was highlighted by participants in this study and supported by Bell *et al.* (2012:5). An American manager referred to this as, *"The gap in graduate qualifications and employer expectations"* (M2US). Institutional management, tutors graduates and students' fitness and fight for survival, including their fitness for purpose which included more flexible, innovative and new perspectives on graduateness using technology in formal learning was highlighted. Supported by Reschke (2016:1), it was evident that for institutions to remain competitive, they had to redesign their institutional curricula and processes to meet the changing needs of their stakeholders in a rapidly expanding digital economy, which will be discussed next under 21st century employability expectations.

5.4.2.1 21st century employability expectations: "The markers for success do not change from generation to generation".

Performance indicators are referred to as a set of measures undertaken to evaluate institution's vision and goals as discussed in section 3.2.1, and this definition is supported by Martin and Sauvageot, (2011:9) and Bunting, Sheppard, Cloete and Belding, (2010:3). These performance indicators did not only serve as an internal set of assessments determined by institutional and faculty goals, but attempted to assist students with skills sets needed in the labour market. It is, however, evident that performance indicators in the 21st century should include curricula that feed into the labour market, possible work placement opportunities, employer engagement, specific skills development, employability needs and employment rates (Bunting & Cloete, 2012:6). However, much of the performance indicators necessary for successful employment stayed the same regardless of the integration of technology. Participant T4US remarked that

> *The markers for success do not change from generation to generation. This includes attitude, adaptability, professionalism, promptness and strong*

> *people skills. However, colleges and employers must work together to direct students into high demand fields. Jobs have become so specialized, but if an individual has the markers for success, they [students] will do well professionally. Graduate unemployment occurs when students earn a degree with skill sets that are not in demand.*

When participants were asked about 21st century employability expectations, management and tutors on the American research site expressed the need for students to be familiar with a wide range of 21st century learning skills as discussed in section 3.2.2. Some of these needs are for students to have proper technology skills, to get more involved in their learning, and *"Show they got more of the entire learning experience than just class knowledge"* (M1US). Priddle, Greig and Wiles (2015:143) agree that students who demonstrate non-curricular skills have an advantage in the search for suitable employment. Students need guidance and positive reinforcement, self-teaching with the benefit of technology, less emphasis on the traditional classroom, and to learn proper online and face-to-face communication skills. American manager M4US said that *"Students may have the skills to operate mobile devices but are lost when it comes to actual computer skills",* and *"[s]tudents need to master computer skills to do proper research and need to master how to communicate in a proper manner"* (T8US).

Management and tutor participants on the South African site stated that the employability needs and expectations of students in the 21st century included needs to be taught both skills and knowledge, and the expectation of assistance from their institution in contrast with the lack of support from teachers in high school. Manager M1SA noted that students *"[e]xpect instant feedback and constant availability from their tutors, they want work exposure in their fields of study and want related experience to form part of their studies"*. One manager said that *"[t]oo much emphasis is placed on the theory but this is not being mastered because the learners do not have basic skills such as numeracy, literacy and problem-solving abilities"* (M3SA). This was reiterated by a tutor who stated that *"[s]tudents expect to walk into a high-paying job, often without the realization that they have to start at the bottom and work their way up"* (T1SA). An American manager added that *"Students have high expectations and do not want to accept an entry level position"* (M4US).

Graduates and students on the American research site mentioned flexibility of learning, an understanding of the skills they needed for employment, current curricula, and the facility to

utilise the networking opportunities created by the institution. American graduate G2US explained that

> *We had many networking sessions to present yourself to the community and employers. If students are not employed when they finished their studies it is because they did not try to network themselves, therefore nobody knew who they were. A student cannot only show up for class and leave. We have a term for that, a 'car to classroom to car' attitude.*

Participants wanted curricula that featured more innovative learning and less theory. One graduate stated that *"[t]here is too much theory focused curriculums. Students should learn to make things and be inventors instead of waiting to be employed"* (G5US). This is in line with Botes (2015:1), who maintained that entrepreneurial knowledge should be gained through higher education to equip students with the skills to create jobs instead of seeking jobs. According to the World Economic Forum (2015:16), countries globally voiced the need to develop students' knowledge, skills and competencies; not only for careers, but for life. Student S1US stated that *"[e]nough research should be done to determine the demand for specific degrees"*. In order to create value for all stakeholders, institutions should reflect on their strategies to ensure that students meet the demands of the rapidly changing learning environments of the 21st century, as discussed in section 3.2.

Graduates and students on the South African sites also expressed the need for work experience, connection with possible employers, training in soft skills, less theoretical knowledge, and career-readiness (S3SA):

> *So you will graduate, but are not really ready for the workplace. You do not know how to handle yourself in the workplace, you struggle to sell yourself and to stand out from the rest.*

According to graduate G2SA, *"...there are students, most of us that want to be employed, but we don't want to be self-employed".* This is in line with Korka's statement (2016:95) that many educational institutions mainly consist of academics who are appreciated in their subject fields, yet often lack the business acumen so essential for supporting students in 21st century learning environments.

To reinforce and enhance performance indicators for 21st century learning, participants' views on workforce needs, career-focused skills and employability curriculum are discussed next.

- **Workforce needs**

Employers constantly voice their concern over graduates' lack of employability skills in the workplace. This makes the task of filling positions for skilled work a difficult one (Hora, Benbow & Oleson, 2016:206; Ripmeester, 2016:125), as discussed in section 3.4 and highlighted by participants on both research sites. According to American manager M2US, *"[t]here is a gap in graduate qualifications and employer expectations",* an observation reiterated by South African manager M1SA: *"There is a gap between employer needs and the product educational institutions produce".* Furthermore, students want to understand and be informed of how relevant their learning is in terms of labour market demands to be aware of whether they are suitably equipped for the workplace. Institutions are required to guide and advise them: *"You go to school, then study for 3-4 years to get a qualification, you do not have work experience, and then what?"* (S3SA). The recognition of education as a driver of economic recovery in developed and developing economies has revived the focus on learning design and employability development (University of Oxford, 2015:15; Beetham, 2013:269), which was discussed in section 3.4.2.

When participants in this study were asked to share their views on the reasons for graduate unemployment in the 21st century (section 3.9.2), American and South African participants shared quite a number of perspectives.

In view of South Africa's high youth unemployment rate, which is largely ascribed to low and non-existent skills sets, the future of any potential for economic growth remains uncertain (National Youth Policy 2020, 2015:12). Driven by an international trend, South Africa's Council on Higher Education (2016:6) highlighted the need for a better understanding of the role of higher education in assisting an expedited and innovative mode of delivery, evaluation and development of graduateness, the assurance of more relevant curricula, innovative teaching and learning, and the feasibility of collaborative online learning through blended approaches (section 3.2.2.2) (Allais, 2017:148).

South African managers, tutors, graduates and students reported the high cost of finding employment, including airtime and data to apply for jobs. In addition, corruption and nepotism – mostly in government institutions – were also challenging. According to graduate G3SA,

"[t]he need for a corruption free government who has to take responsibility for graduate unemployment and nepotism in local government positions" was essential. American graduate G5US explained that too much emphasis was placed on *"theory-focused curriculums",* with too little practical application. Graduate G1SA commented that *"[w]e have too many book smart people out there with too little work ethic"* and tutor T2SA said that

> *Students are not ready for the job market. The gap between a diploma student and the workplace is too big. More on the job training will narrow the gap between a diploma and a first job.*

Other reasons cited by participants on both sites included students' unwillingness and lack of motivation to succeed: *"Students are satisfied with the bare minimum and Ds [D symbol] get degrees too".* American tutor T8US explains students' dependency on others to achieve objectives, their lack of soft skills and general attitudes and behaviour like procrastination, lack of drive or innovation, and sense of entitlement as follows:

> *Students do not think things through. Hypothetical questions mess with their minds. They understand learning an expected answer, but analysing and assessing a hypothetical situation is hard for most students, which might hurt them in job applications and interviews.*

South African tutor T2SA added that

> *Students' attitudes are a big factor. Students complete their course and feel they know everything. They are not prepared to start at the bottom of the corporate ladder and work their way up.*

According to American manager M1US, *"[s]tudents think they will get a degree and there will automatically be a job",* and *"[g]raduates may have high expectations and not want to accept an entry level position, choosing instead not to work at all"* (M4US). South African student S1SA maintained that *"[s]tudents demand and expect too much for what they have".* It is evident that businesses would rather consider graduates with the right attitude over specific skills sets (CBI/Pearson, as cited in Chatterton and Rebbeck (2015:5)). South African manager M3SA explained that

> *Much emphasis is placed on the theory, but it is not mastered because students do not have basic skills such as numeracy, literacy and problem solving abilities. Students are spoon-fed and do not understand what it means to take accountability and responsibility for oneself. Students are not being encouraged to apply their skills and abilities to various situations. With limited employment opportunities available, employers need someone that will make a valuable contribution to the organisation and this primarily includes independence and problem-solving skills.*

The global economic meltdown resulting in limited employment opportunities (section 2.9; 3.2 & 3.2.2.1) was mentioned by participants on both sites. Student S2SA said that *"[s]low economic growth, poor education and training are reasons students do not find work".* American tutor T7US agreed that *"[t]he economy is part of the reason for unemployment".* Other reasons highlighted were an oversupply of graduates in an already congested job market, unrelated and dated programmes, or programmes with limited employment opportunities. American graduate G4US remarked that *"[c]ontent you studied in your first year is already outdated in your final year".* Due to competition and the nature of competitive markets, *"[y]ou have to have something that stands out and sets you apart from others"* (G1SA). South African graduate G2SA explained that *"[m]ost of us do not have work experience that is why we are not employed"*. This view was shared by American manager M2US:

> *Employers wish to hire graduates with all the great technological skills, but also wish for graduates to have several years' experience. It is hard for students to complete coursework and gain field experience simultaneously due to the lack of a qualification. Field experience gained whilst studying seems to be viewed as lesser quality by employers.*

However, according to American graduate G1US, experience is not necessarily a prerequisite for student employment:

> *I think that a lot of companies want to mould their boys. They [companies] want employees with knowledge, not much experience. I would want someone who has just graduated to meet the needs and the calls of the company, compared to someone with 15 years' experience.*

It is evident that, despite unsatisfactory academic outcomes, high unemployment due to inadequate skills development, lack of resources, etc., educational institutions tend to guard their academic programmes indefinitely (Swanger, 2016:46). Manager M1SA commented that *"courses have become irrelevant",* and according to American tutor T4US, *"[s]tudents earn a degree with skill sets that are not in demand".* For higher education institutions to maintain their fitness for purpose and survival, institutional management has to rethink and reshape their management practices to keep up with the skills required in a changing labour market (Reschke, 2016:1).

Graduates often reveal their learning as inadequate when they fail to understand what is needed to market their skills and experience to employers, and they are unsure of how their subjects relate to employability (Ripmeester, 2016:124). Graduate G1SA explained that *"they [institutions] do not really teach you how to sell yourself and stand out from other people".* However, South African manager M2SA remarked that *"[s]tudents have a misperception of how to apply or find a job"*. Hora *et al.* (2016:206) postulate that transformative experiences for students who experiment with new ideas and knowledge when they are exposed to different disciplines have added employment benefits. Manager M2SA confirmed that *"[s]tudents do not include all their jobs in a CV to show potential employers the additional skills they might have".*

An intensified link between higher education and the world of work is necessary, and more should be done to enhance graduateness. Participants felt that *"[c]areer coaching is heavily underutilized [sic] …colleges and employers must work together to direct students into high demand fields"* (T4US) and *"[w]e should have more practical or in-service training while we study in order to have experience when you graduate"* (S3SA). In their quest to find employment, South African participants suggested less face-to-face interaction, the availability of computer labs, and free wi-fi hotspots to access their classes and apply for employment.

American tutors were concerned about the detrimental effects of technology and remarked on *"[s]tudents' inability to unplug from electronic devices*" (T6US) and *"[s]tudents going through the motions of online classes not really learning anything as the software guides you step by step to solve all problems. No real problem-solving skills learned* (T5US).

- **Career-focused skills**

It is evident that employers require graduates that possess knowledge relevant to a particular position as well as 21st century skills (Lane, 2016:52; Chatterton & Rebbeck, 2015:5). Lucas and Hanson (2016:10) postulate that 21st century skills are usually associated with information and communication technologies and include communication skills, collaboration and innovation. These abilities are defined as competencies that every employee should have regardless of the type of career (UK Commission on Employment and Skills as cited in Lucas & Hanson, 2016:16). Griffen, Bui and Care (2013:56) developed a framework of four categories (section 3.8) that include proposed 21st century skills divided into 'Ways of thinking', 'Ways of working', 'Tools for working', and 'Ways of living in the world'. These are also referred to as higher order skills. When compared to the National Research Council's "clusters of 21st century competencies" (2012:12) discussed in section 1.3, 'Ways of thinking' corresponds with 'Cognitive competencies'; 'Ways of working' corresponds with 'Interpersonal competencies'; 'Ways of living in the world' corresponds with 'Intrapersonal competencies'; and 'Tools for working' also entailed information and communication technology competencies. Table 5.5 below presents both sets of skills and associated feedback from participants.

Instead of providing participants with a finite list of possible skills, they were asked which skills they regarded as necessary for employment and which skills they thought employers expected employees to possess. The analysed data are presented in Table 5.2 below to indicate the employability skills mentioned by participants on the two research sites. Skills are presented from the highest to the lowest ranking according to participant views and the research site. The last two columns indicate additional skills mentioned by one or two participants.

Table 5-3: Employability skills highlighted by participants

SOUTH AFRICAN PARTICIPANTS RANKED HIGH TO LOW	TOTAL PARTICIPANTS	AMERICAN PARTICIPANTS RANKED HIGH TO LOW	TOTAL PARTICIPANTS	SOUTH AFRICAN PARTICIPANTS OTHER SKILLS LISTED	AMERICAN PARTICIPANTS OTHER SKILLS LISTED
Problem solving	10	Computer/Technical	14	Trustworthy	Customer service
Communication	10	Interpersonal skills	10	Dedicated	Critical thinking
Computer/Technical	7	Time management	9	Online presence	Motivation
Critical thinking	6	Responsibility	8	Work ethic	Leadership
Teamwork	6	Communication	5	Multitasking	Fast paced
Time management	6	Teamwork	4	Numeracy/Literacy	Listening skills
Self-starter	5	Flexibility	3	Enthusiasm	Determined
Attitude	4	Willingness to learn	3	Listening skills	Quick learner
Keyboarding	3	Attitude	2	Creative	Humility
Willingness to learn	3	Cultural awareness	2		Research
Quick learner	2	Online etiquette	2		Self-starter
Value to company	2	Online presence	2		
Flexibility	2	Problem-solving	2		
Interpersonal skills	2	Self-discipline	2		
Responsibility	2	Professionalism	2		
		Confidence	2		
		Honesty/Reliability	2		
		Networking	2		

Table 5.3 demonstrates that many of the same skills were highlighted by participants across the two sites. Employability skills that corresponded across the two research sites were combined and compiled in Table 5.4 below.

Table 5-4: Skills ranked highest by participants

SKILLS MENTIONED BY ALL PARTICIPANTS RANKED FROM HIGH TO LOW	TOTAL PARTICIPANTS	SKILLS RANKED HIGHEST PER RESEARCH SITE	
		SOUTH AFRICAN SITE	AMERICAN SITE
Computer/Technical	21	7	14
Time management	15	6	9
Communication	15	10	5
Problem solving	12	10	2
Interpersonal skills	12	2	10
Teamwork	10	6	4
Responsibility	10	2	8
Critical thinking	7	6	1
Attitude	6	4	2
Willingness to learn	6	3	3
Self-starter	6	5	1
Flexibility	5	2	3

In Table 5.4 participants indicated the twelfth most mentioned competencies for 21st century employment. It was evident from the study that participants on both research sites agreed on the expected skills from an employers' point of view, although they were not given a set list with predetermined values, the outcomes highly correlated. Computer and/or technical skills were ranked the highest, followed by time management, communication skills, problem solving, interpersonal skills, teamwork, responsibility, attitude, critical thinking, willingness to learn, self-starter and flexibility. These skills are listed in Table 5.5 below and are included into both the Skills Framework by Griffen *et al.* (2013:56) and the Clusters of 21st century competencies by the National Research Council (2012:12).

Table 5-5: 21st Century Skills Framework (Griffen *et al.*, 2013:56), Clusters of 21st Century Competencies (National Research Council, 2012:2-12; World Economic Forum, 2018:29-30), and twelve employability skills highest ranked by participants

WAYS OF THINKING **COGNITIVE COMPETENCIES**	**WAYS OF WORKING** **INTERPERSONAL COMPETENCIES**	**TOOLS FOR WORKING** **INFORMATION AND COMMUNICATION TECHNOLOGY COMPETENCIES**	**WAYS OF LIVING IN THE WORLD** **INTRAPERSONAL COMPETENCIES**
Problem-solving Communication Critical thinking	Interpersonal skills Teamwork	Computer/Technical skills	Flexibility Responsibility Time management Attitude Self-starter Willingness to learn
OTHER SKILLS MENTIONED BY PARTICIPANTS IN LINE WITH 21ST CENTURY COMPETENCIES			
Research ability Oral communication Written communication Listening Numeracy/Literacy	Networking Trustworthy Leadership Customer service Multitasking Quick learning Fast paced Motivation Dedication Honesty Self-discipline Confidence Value to company	Keyboarding Online presence Online etiquette	Cultural awareness Diversity Resourcefulness Perseverance Professionalism Ethics Career orientation Humility Professionalism

The skills presented in Table 5.5 are often referred to as higher order and complex skills and are not adequately addressed in traditional face-to-face delivery (Griffen *et al.*, 2013:55). The importance of 21st century learning is to enhance deeper, meaningful learning that is transferable into the workplace. Employers, businesses and political leaders are continually encouraging educational institutions to develop skills such as problem-solving, critical thinking, communication, collaboration, and self-management (Pellegrino & Hilton,

2012:Sum-1-3). Manager M4US explained that *"[e]mployers, when given two applicants who possess the same strong knowledge needed for the job, are more likely to choose the one who seems to have employable skills".* American tutor T1US supported this by saying that *"[m]ost employers want students to have enough basic skills to ensure the smallest learning curve".* According to Bernstein and Osman (2012:46), both graduates and employers frequently criticise educational institutions' inability to encourage and produce students with employability skills to ensure immediate productivity in the workplace. T1SA acknowledged this statement and added that *"[e]mployers want someone that can start work immediately without extra training. They expect graduates that can put what they have learnt into practice".*

Yet, manager M5SA postulated that *"[a] lot of students do not have the required skills and attitude. It is our role at [Name of institution] to close the gap and provide graduates that are ready and train them for the workplace".*

This statement is in line with the findings of the British Council's (2015:1-2) report for Africa, which stated that institutions' skills development programmes were underrated and undercapitalised.

- **Employability curricula**

As revealed from the analysed data, it is evident that higher education curricula are not always aligned with what is required in the workplace (Peyper, 2017:1) (section 3.6.1). An employability curriculum should provide for authentic learning, have employability skills embedded into learning outcomes, be relevant to the student's real-life experiences, and should commence at the beginning of the study journey (Gray & Chatterton, 2016:11; Hozien, 2014:394-395; Meyers & Nulty as cited in Holtzhausen, 2012:196).

For participants on the American research site the inclusion of employability skills commenced when students started their educational journey. This was a foundation programme with embedded employability skills, further discussed in section 5.4.3.1 (c). American manager M5US explained that, "*[e]mployability skills are taught throughout the course. It begins with the first course namely 'Student Success' and ends in the capstone course with 'Professional Development'".* American manager M6US clarified this as:

> *Verbal and written communication, as well as presentation, problem-solving skills, and critical/analytical thinking skills are addressed across*

> *the curriculum. In our capstone course all soft skills are addressed through various assignments (in written, video, discussion, presentation formats), including: workplace communication, managing conflict, working in teams, creating an effective cover letter and résumé, conducting an effective job search, interviewing techniques, understanding time management and stress reduction, organizational skills, life management/goal setting, and etiquette/professional attire. Our general education requirements often hone soft skills such as communication, public speaking and interpersonal communication respectively.*

Whilst viewpoints on how graduateness is related to employability vary, students and institutions globally acknowledge the importance of skills development and the inclusion of skills in the formal curricula (Ripmeester, 2016:125; Jones, 2016:108; Priddle *et al.*, 2015:153). As for this study, all participants concurred that changes in curricula have the possibility to promote graduateness. According to American manager M1US,

> *Changes in curricula are necessary. While the hard skills get you the job, it is very important that the soft skills are part of the curriculum, otherwise they can be overlooked, and most people are in agreement that the soft skills are what help you keep the job.*

Outdated curricula, lack of practical application, redundancy of subject matter, and the reluctance of higher education institutions to align their academic landscapes with employer needs and labour market values all contribute to unemployability (British Council, 2015:17; Bernstein & Osman, 2012:51). American tutor T1US remarked that

> *Changes in curricula should be driven by employer needs and by higher learning accreditation. There is no sense teaching a course that employers want students to learn if the course cannot transfer, and there is no sense teaching some kind of gateway course that meets an accreditation standard but is useless in the workforce.*

Manager M2US supported this statement and explained that

> *Our curriculum is always based on feedback after the completion of each semester. A lot of academic content choices are based on how employers*

> *feel students are prepared for the workforce and how well students feel they qualify for current employment. As the employment demands change, so does our curricula.*

Other views expressed by American managers and tutors were that institutions should focus less on theory and include more real-world experiences (section 3.6.1; 3.7 & 3.8). This was reiterated by South African managers and tutors who explained the importance of practical training with real-world experiences, and having assessments that test students' abilities to apply their knowledge. Manager M2SA simply remarked: *"Gone are the days of studying a degree to get a job. The question is what sets a graduate apart from the rest? And the answer is added skills and experience".*

American graduates and students were in favour of curricula changes to promote graduateness. Suggestions included work placement, in-service training, mentorship programmes, career advice, increased employer collaboration, networking opportunities and volunteer work. American graduate G1US mentioned cross border exchange to be included in their learning and stated that

> *We have international business, technology, communication… More effort should be put into mentor programs, where you pair up with a mentor in another country and share experiences.*

Graduate G5US stated that

> *The problem with graduates is lack of experience, and I think students should be exposed to their field early. By the time they finish college they will be ready. Students also need exposure to real-world problems.*

South African graduates and students agreed that their lack of experience and exposure to work placement was a challenge and graduate G5SA reported that *"[w]e lack soft skills and work experience, and that makes it difficult for us".*

5.4.2.2 Graduate qualifications and employability: "Students are stuck between a rock and a hard place upon graduation".

Participants in this study were asked whether they thought their current curricula were relevant to the workplace. It is evident that students internationally want to understand and be informed

of how meaningful their learning is in terms of employment and if they are suitably equipped for the workplace (Hora *et al.*, 2016:162) as discussed in section 3.4. American student S4US remarked that

> *I did not think my subject Crisis Management was important. But when I started at my work three months ago, they wanted to implement a Fire Safety Plan. Because I took that class, I am now implementing a Crisis Safety Action Plan at my work.*

Designing curricula for employability results in curricula that are related to real-life experiences, are interconnected, provide for higher-order thinking, and align with employer expectations. American student S2US reported that the programmes at the institution she studied at applied to real life:

> *You become information literate. I was struggling to buy insurance and I had just learnt proper research skills to help me find things. Those skills that you retain and require over the years after studying the course apply to life for sure.*

Whilst studying, students should be exposed to a range of experiences that enable them to connect with different people on different levels and in different areas of interest. Furthermore, when different skills and expertise are included in the curricula, students perform well; not only academically, but in work, life and society (Alpert as cited in Minsky, 2016:1). Manager M4US stated that *"[o]ur curricula are aligned to real-world experiences. Students receive instruction that is relatable and relevant. They have tangible experience".* American managers reported that curricula were constantly being adjusted to meet the needs of employers and that much of their curricula included assignments completed with the cooperation of someone in the workforce. Job shadowing and simulated lessons were completed in programmes that allowed students to gain supervised, real-world experience in their career fields and network opportunities with local employers. Group projects were created where students could learn how to work in teams, and tutor T2US reported that *"I try to instil a real-world perspective in the courses with less theory and more sharing of personal experience".* American tutor T1US shared the same sentiment: *"My courses are designed to make students think – to use analytical and logical skills needed in the workforce".*

Higher education should remain in charge of education and should respond to the needs of industry, not the other way around (Hora *et al.*, 2016:44; Ripmeester, 2016:124). According to American manager M3US, this could be achieved *"[t]hrough semi-annual advisory board meetings, faculty externships, student internship visits, tours and guest speakers".* However, this is not always the reality. American manager M2US explained that *"[s]tudents are stuck between a rock and a hard place upon graduation as curricula are not fully linked to all the skills needed for employment".*

Although most managers, tutors and students on the American research site viewed their programmes as closely linked to the real world and life, graduates – once they were full-time employees – found that their programmes had not sufficiently equipped them for the workplace. One graduate completed additional subjects to improve his/her employment prospects and found that *"[a]dditional classes benefitted me and my position. I took Income Tax classes because I help with financial aid, and Customer Service because I deal with customers"* (G3US). Graduate G1US concluded that *"I would say institutions do not include employability skills as much as they should"* and *"[t]he qualifications at [Name of institution] are not always related to the real world"* (G2US).

In comparison, South African managers and tutors reported that their programmes were in line with the National Qualifications Framework (NQF), South African Qualifications Authority (SAQA), and accredited with the Sector Education and Training Authority (SETA). Higher education policies and training are often designed to enforce compliance with accountability measures instead of assisting and supporting tutors and students, and to give leadership, resources and guidance (Hora *et al.*, 2016:162). A South African tutor found that *"[a]lthough our programmes are aligned through the National Qualifications Frameworks, it is not linked to the real world"* (T5SA). Yet, most managers and tutors viewed their curricula *"as closely linked as possible"* (M2SA) and reported on practical work, case-study exposure, role-play experience, workplace connection, and consulting with industry and relevant Sector Education and Training Authorities (SETAS) to establish needs to adjust curricula. Manager M3SA reported that *"[w]e are trying to focus on providing students with the ability to learn additional skills".* Tutor T4SA explained that *"[w]e leave no stone unturned to get our students job-ready, we have logbooks, practicals, and also incorporate whatever we are doing in class to whatever employees are looking for".*

South African graduates and students reported their studies were closely linked to the workplace. However very little information was shared on their experiences beyond brief exposure to the workplace and elementary office administration experiences. Student S3SA explained:

> *For each module you have to visit a related organisation for three to four days to get an in-depth feel of their operations. [Name of institution] gives you a letter of introduction. You only ask and look what they are doing. They [companies] show us around and we sometimes do this and that. So for me it is part of the real world.*

Student S1SA rated her workplace exposure as *"very good. In my first year they taught us how to make copies, to send emails, how to answer telephones, how to dress professionally…so I think they [institution] get us ready for the workplace".*

Most South African graduates responded *"I think so"* (G5SA) when asked whether their studies were related to the workplace. Graduate G1SA said that, *"[i]n the second and third year we did our log books… we had to go and get experiential training to get a clearer understanding of the workplace".*

Based on the feedback received from South African graduates and students, and according to research the British Council (2015:1-2) did in Africa, graduates lack knowledge they can transfer to real-life situations, their skills are inadequate, and students in less fortunate social circumstances have less exposure to internship opportunities. Compared to their South African peers, graduates and students on the American research site have more opportunities and more exposure to real-world opportunities.

5.4.2.3 Technology integration towards the advancement of employability development: "Technology learning is closely tied to employability skills".

Chatterton and Rebbeck (2015:7) and Killen (2016:1) postulated that technology could be used to support the development of employability for students, institutions and employers. All participants responded positively when they were asked their views on the integration of technology to enhance the development of employability. According to American manager M4US, *"[t]echnology learning is closely tied to employability skills",* and South African student S3SA felt that *"[b]y the time I go into the workplace I will have presentation skills,*

computer skills and know how to adapt". However, manager M3US remarked that *"[s]tudents must learn to apply technology and not just consume it",* and this was supported by South African tutor T1SA: *"Technology could enhance skills if students knew how to use it properly".*

American and South African participants highlighted the benefits of creating an online presence to enable employers to meet future employees, and vice versa. American manager M1US said that "*[t]echnology learning is good for students' marketability",* and South African manager M3SA reiterated that *"[w]e all operate in a social media, technology generation [sic] where business environments are highly technology orientated",* where students are exposed to network opportunities with future employers on a professional level. South African graduate G3SA stated that, *"With technology you have a chance to communicate with employers and recruitment agencies".*

The benefits of using technology to enhance graduateness included the availability of information access whenever and where ever if students use appropriate research skills as covered in section 3.5 and supported by Asonitou (2014:283) and Johnson, *et al.* (2016:22). Digital and computer skills, online etiquette, culture diversity awareness, time management, written communication, presentations, independent working, lifelong learning, analytical thinking, critical thinking, and problem solving were highlighted as the skills students acquire when using technology to enrich their employability skills, and South African manager M5SA commented as follows,

> *Students are exposed to different situations and assignments that require research, analysis and reporting skills that force them to critically think and apply their minds into what they are learning. They learn how to work independently and have to take responsibility for their own learning which will make them ready for the workplace.*

For American student S2US the use of technology to enrich employability was described as, *"It definitely brings a new and entirely different sense of accountability that can hone in on the sense of responsibility and due diligence at the same time"*. In fact, American tutor T1US felt that *"[n]ot knowing how to use technology properly puts one at a disadvantage right off the bat".* South African graduate G1SA realised the benefits of using technology to enrich employability: *"…being an intern I now see the importance of technology and that everything revolves around that. In my work I do research and must know where to find information".*

Despite the advantages and benefits highlighted, participants emphasised the use of technology in conjunction with traditional learning to develop employability skills which cannot be fully developed in the technology classroom. As covered in section 3.7 and supported by Lane (2016:52), not all employability skills can be taught in face-to-face learning environments, just as not all employability skills can be taught in fully online learning environments. American tutor T4US remarked that *"[s]oft skills is [sic] one area where pure online learning falls short, and can never truly match a traditional face-to-face session",* and American student S3US confirmed that *"[b]ody language, facial expressions and things like that are needed to develop a lot of soft skills".*

American tutor T2US suggested that *"[t]he use of technology should include measurable responsibility for the timeliness of work. My students' biggest issues revolve around punctuality and procrastination"*, and this was supported by manager M1US:

> *When they [students] use technology for learning they have to have good time management skills because no one is there making sure things are completed on time. And that is a good skill useful in the work world.*

According to Chatterton and Rebbeck (2015:5), insufficient emphasis is placed on supporting institutions in the use of technology for employability. Students, tutors and institutions are not always on the same page regarding student employability maturity, and technology is often underutilised for skills development. The next section focusses on institutional guidance and support.

5.4.3 Institutional guidance and support

The third theme included two categories, namely (1) student support in making career decisions and (2) assisting students to find employment as part of institutional guidance and support to graduate employability.

It is evident that institutional contributions towards students' career guidance and support does not only reflect on institutions' successes but reflects on graduates' future employment and placement, particularly where student career services, work placement, mentorship programmes and employability skills are included in formal curricula (Johnson *et al.,* 2016:8; Lane, 2016:52; Gray, 2014:1). American manager M2US explained that *"[i]f students are not adequately prepared to make career choices, their futures and our future as an academic*

institution is [sic] at risk". This is in line with Brindley (2014:295), who postulated that good student support services positively correlate with higher levels of student retention and satisfaction. However, according to CBI (2015:1), the quality of institutional guidance and support in higher education are not sufficient to assist students in making informed decisions about their future career options, and, according to South African tutor T5SA, many students *"will drop out because of the lack of career guidance"* which *"has a direct impact on students' results and motivation to perform well"* (M4SA).

5.4.3.1 Student support in making career decisions: "Very necessary part of our students' success".

One key element to improving student graduateness is the availability of support for students to make informed career decisions related to 21st century careers (South Africa. Council on Higher Education, 2013:155; Department of Higher Education and Training, 2015:8), as discussed in section 3.5.2. Aside from academic support, assisting and maintaining academic and institutional success could be perceived as the most important objective of student support services (Valentine, 2017:3; Schreiber, 2014:24; South Africa. Council on Higher Education, 2013:167). Participants in this study were asked their views on and experiences of career guidance offered to assist students in making career decisions. All participants agreed that career guidance was very important as many students were unsure and/or uninformed about career prospects and requirements in specific fields. For American manager M1US *"[i]t is a very necessary part of our students' success",* and *"[f]or students it is difficult to decide on a career…many students come in with no idea of what they want to do with their lives"* (M4US).

Corresponding views were shared from South African participants. Manager M1SA reported that *"[s]tudents mostly have no idea what careers are out there, what they entail, and how to apply for jobs when they leave college".* This was confirmed by student S2SA, who said that *"I did not know what I wanted to do, so [Name of institution] showed me the prospectus and explained to me the different careers available".*

South Africa's Council on Higher Education (2014:45) and Department of Higher Education and Training (2015:9) acknowledged that students entering higher education were poorly prepared in terms of career knowledge, and called for educational opportunities to provide suitable levels of career guidance towards employment. South African graduate G1SA said: *"In high school we only focused on a few careers, those that they [teachers] thought were important". "I advocate for career guidance at the earliest grades of high school"* (T4SA).

A key finding made by the British Council (2015:10) was that students do not access, or are unaware, or fail to realise the value of career services available to assist with possible employment opportunities. American graduate G1US admitted that *"I did not utilize the career services or anything like that. I am a go-getter and I have taken that upon myself".* This was further confirmed by graduate G2US who reported that

> *Students do not use it [career guidance] as much as I would hope for, but again it is gonna [sic] be a handful of students that use it, and other ones just do not see the benefit. It is a great resource and I feel students forget why they are going to college and complain when they cannot find a job.*

The British Council (2015:10) found that less than 51 per cent of students thought career counselling and advice was supportive and informative. However, participants in this study who consulted career services clearly indicated the benefits. American student S2SU reported that *"I have been extremely fortunate with our student advisor and she has played a key role in me figuring out what I wanna [sic] do. I check in with her regularly",* and *"[o]ur mentor has always gone out of her way to assist us"* (G4SA).

Institutional guidance and career support are further discussed in the following three subcategories, namely, (a) setting students' educational goals, (b) career assessments, and (c) endorsement of career-readiness.

- **Setting students' educational goals**

Participants on both research sites reported that setting students' educational goals through career guidance assist students in achieving their highest academic and personal potential (British Council, 2015:10). American manager M1US reported that

> *I teach classes for new students to help them navigate to be successful college students, and we help them do that. It makes sense that we would also help navigate them and guide them to their next step – the workplace.*

In support, manager M2US explained that

> *This is an imperative aspect of the work I do. Not only does [Name of institution] offer courses for students to explore career options, we have an entire student support department dedicated to career development.*

Schreiber (2014:13) postulated that some institutions include career advice services in their institutions' student support services. Although the South African institution did not report on the availability of a career support centre, students received guidance from their tutors. South African student S2SA reported that *"even while we are studying, they [tutors] do regular interviews, they ask us how we cope in our studies, and are we still on track".* American students also reported support to students with educational goals. Student S1US mentioned that *"[o]ur student advisor called me two days back to ask how my semester is going. She reached out to me, not the other way round. I thought that was really helpful".*

- **Career assessment**

Participants on both sites confirmed the availability and importance of career assessments to support students with choices when they selected institutions, careers, and subjects and to determine whether their skills matched employer needs (OECD as cited in Latchem, 2014:332). Career assessment was available to students on both research sites. On the American site both students and graduates were assisted with the development of their career goals. They collaborated with career advisors to help them reflect on how their skills, interests, values, and personality type might translate into a career. It is evident that graduate employability rates are higher when career pathways are clearly defined through collaborative efforts by career assessment offices, tutors, students and employers (Kinash, 2015:2). American tutor T8US reported that *"[s]tudents need institutional assistance in finding their personal abilities and developing those into career goals".* Tutor T7US stated that

> *I try bring career examples into the classroom. I want students to see what they will be facing in the real world. Showing and bringing that helps the students to see if this is the career they want or not.*

American manager M4US corroborated this by explaining that

> *Career advising is very important to get them [students] on the right path, and career assessments can help them determine what path that is, and can create a sense of well-being with the choice made.*

The British Council (2015:15) encouraged higher education institutions to recognise the potential career development and assessment offices have to assist students with career choices in different sectors, and according to South African manager M5SA,

> *Students do not know what they want to study, what career fields are available and what the requirements are to enter a specific career field. We do GPS testing [career assessment], career days and a formal enquiry before a student enrols with us to assist them in choosing a career and explaining what the career entails.*

These statements were further explained by South African student S3SA who reported that

> *During registration you complete a career assessment… it is an application on the computer… your complete questions related to certain fields… and your interests… your results will indicate in which field you have a higher score. Based on that you can then make a choice.*

South African tutor T1SA reiterated: *"Many students study what their parents want them to. Sometimes their personality is not really suited to a specific career. Through career assessment institutions can assist in their choices".* South African manager M2SA explained that *"[c]areer assessment is important and often overlooked by parents and students. Media also creates a picture of the ideal job – but this is not always the reality".*

- **Endorsement of career-readiness**

Kuijpers and Scheerens, as cited in Kinash *et al.* (2015:6) postulated the availability of career advice services to contribute to students' development of employment strategies incorporated into the formal curricula through innovative ways. The provision of services to develop interview skills, résumé building, work etiquette and employer networking opportunities were mentioned on both research sites, but not formally included on the South African research site. Employment-related strategies built into the curriculum could have positive outcomes for employability (British Council, 2015:10).

Student and graduates on the American research site participated in Career-Ready Endorsement programmes. These programmes were developed as online, self-paced programmes consisting of different modules to prepare students for job interviews and workplace scenarios. American manager M4US explained this as:

> *We have a program called Career-Ready Endorsement. Students participate by completing a series of chapters designed to instil soft skills. They receive incentives along the way, and once completed, they obtain a*

> *Professional Skills Certificate with priority interviewing opportunities at a number of businesses in our area. This enables students to finish with a greater awareness of what employers expect in job candidates.*

Career-Ready Endorsement programmes are seen as résumé builders where students are assisted with professional development, document and interview preparation, and building online profiles and portfolios to attract future employers. Students and graduates had an opportunity to build an online record which could be accessed by registered employers who could view student and graduate profiles.

American graduate G2US supported the endorsement of career-readiness:

> *I feel the career resources were great. The career services are a resource for not only employing students, but they are the first resource for companies outside, and they [businesses] come to [Name of institution] when they are looking for students.*

Although not formally incorporated into curricula, South African participants described the assistance they received toward career readiness. Managers and tutors testified to promoting employment opportunities as they became available. Manager M4SA reported that *"[if] the college receives information regarding vacancies it is forwarded to graduates". "We also assist in résumé writing and interview skills"* (M5SA). Graduates and students reported that the assistance they received with career readiness included workplace visits, guest speakers, alumni visits, interview preparation, and résumé writing. Graduate G5SA reported that *"[o]ur facilitator exposed us to many kinds of workplaces. She encouraged and guided us how to design and update a curriculum vitae online".*

5.4.3.2 Assisting students to find employment: "This should be an institution-wide mission".

Participants were asked to share their views on who should be involved in assisting students and graduates to find employment. According to Bridgstock (as cited in Kinash, Crane, Judd, Mitchell, McLean, Knight, Dowling & Schultz, 2015:6), career planning and management of student growth is an important aspect of employability for building a sustainable work profile while students are still studying, and according to American tutor T4US, *"[t]his should be an institution-wide mission".* American manager M1US remarked that

> *When new students arrive it is intimidating and an entirely new world to them. It helps to have someone who can help you with your résumé, interview skills, and possibly even making connections or helping to guide you to the best option for you.*

Schreiber (2014:13) postulated that some institutions include career advice services into their institutions' student support services to assist in résumé writing and interview skills. Participants on the American research site expressed the support and availability of career services to assist students in preparing and/or finding employment. Manager M2US said that *"[t]his department [career services] advises students year round, holds job fair events, and acts as a middle-man for career networking with employers within our area",* and *"Most of our campuses have someone [career guidance], playing an active role in finding students work or making them employable"* (S3US).

American participants agreed that the availability of a career development department provided valuable resources to students who were looking for employment. Participants remarked on the accessibility of academic advisors, career guidance officers, job fairs, advisory boards, and financial aid offices that assisted with graduate employment. Manager M3US reported that *"[t]he career development department does a spectacular job of assisting students in their quest for employment".* In this regard graduate G2US mentioned that *"[w]ith career services… they help, guide and mentor students into a position that they feel would suit not only the student but the business".*

Although participants on the South African research site indicated the support provided towards graduateness, manager M1SA remarked that *"[i]t would be great to have a dedicated department – like a career centre at the college".* South African student S3SA commented that

> *There should be a support system at every higher education institution to assist graduates. Although graduates should take it upon themselves to find work, the thought of having someone supporting you after graduation will be helpful. Some graduates are just apprehensive, they are on their own, because they do not return and the college is done with them.*

For South African graduates and students their tutors were identified as the first port of call to assist with work placement and career guidance. Although some graduates and students

accepted responsibility for finding their own employment, the need for professional assistance and introductions to career opportunities were expressed. Graduate G1SA explained that

> *Facilitators know us personally, opposed to other staff members like the principal or head of department. We have built a relationship with them and I believe they should then have our best interest at heart.*

Although managers and tutors conceded to offering support, most viewed this as graduates' own responsibility with the assistance from government, employment agencies and industry. Tutor T3SA said that *"[e]mployment agencies, government, the institution and companies must assist, not facilitators".* This is in line with Eccles (2012:103), who strongly rejected employability as an academic responsibility and postulated that the core focus of tutors should be academic development. However, according to manager M5SA,

> *Students are responsible for finding their own work, but institutions must also have a support system to make sure graduates are employable. As an institution we assist our graduates when we receive job invites. We also assist in résumé writing and interview skills.*

This view was supported by tutor T1SA who commented that

> *Often graduates sit at home and hope a position will fall into their laps. They need to get out there and actively look for work. I feel institutions could also play a bigger role in aiding graduates. Workplaces also need to be more flexible and have more graduate programmes.*

It is evident that American participants were used to more active career support services than their counterparts on the South African research site. The views and experiences obtained from South African participants were in line with Bunce, Baird and Jones (2016:3) who reported on higher and better career services from institutions with more career-focused curricula and with clear employment prospects.

Assisting students with finding employment is further discussed under the following subcategories, namely: (a) career-development advisors, (b) faculty, (c) student placement and mentorships, and (d) employer collaboration.

- **Career-development advisors**

Career service advisors are often tasked with linking students with potential employers, provide opportunities for student internship visits, workplace tours, guest speakers, work placement, have employer advisory board meetings, and assist with employment seeking skills (Schreiber, 2014:13). Manager M2US at the American institution was explicit about their inclusion of career advice and student support services:

> *A lot of our curricula is inclusive of assignments with workforce. Job shadowing allows students to not only gain supervised, real-world practice in their career field, but also begin creating a network with local employers in their career field.*

American participants further reported on the inclusion of career development as a subject into their formal curricula where students were provided with practical skills on how to explore employment opportunities, conduct research, set up interviews with prospective employers, and received advice on important workplace issues such as professionalism, diversity, maintaining professional work ethics, and communication. More advanced career development included guest speakers and simulated interviews in addition to individual consultations. Students could perform self-assessments of their interests and values, while focusing on their professional goals. In this subject, students acquired knowledge of teamwork and how to approach career searching. Student S4US explained:

> *When you start you first semester you have to take [Name of institution] class. You do classes in Career Development, Critical Thinking, Time Management, how to best go about reading your syllabus, and finding out what your tutors expect from you. Every Fall [Name of career development advisor] puts 20 students in a room… you learn to think outside the box and do different leadership skills. You do soft skills like personality finders, how you best learn, interpersonal communication, how to work in a team, and to have proper conversation. There is so much stuff at [Name of institution] that deals with career development, because they know that is just as important as learning theory.*

The British Council (2015:15) emphasised the potential of career development services to assist students with employment choices, introduce careers that do not yet exist, and to expand their options in the different sectors (section 3.8.6) (Kinash, 2015:7).

- **Faculty**

Tutors require different skills and mindsets when teaching in 21st century learning environments. Innovative tutors who are creative thinkers and problem-solvers are able to strengthen those employability qualities in their students through collaboration and interaction (Faulkner & Latham, 2016:147). Employers are concerned about and blame higher education institutions and tutors for graduates' poor quality and limited skills development (Kinash, 2015:12; Coetzee *et al.,* 2012:120). American tutor T4US illustrated how innovative and creative tutors link their teaching to skills development:

> *In many of our classes our faculty treat the classroom, related group assignments, and related community interactions as if they were part of a true work environment where timeliness, dress code, professionalism, team interaction, peer interaction, leadership responsibility, etc., are integrated into the course assignments as part of their [students] grades.*

Good teaching staff are necessary to adequately equip students for employment by means of available and appropriate skills development programmes (Axmann, Rhoades & Nordstrum, 2015:xiii). South African manager M5SA explained that *"[t]utors need to be knowledgeable and have practical experience in their fields of teaching to add value to students' learning".*

It is evident from graduates and students on both research sites that their tutors should be included in students' employment development and have the knowledge to assist them with career guidance. American student S4US explained that, *"I really feel that instructors do a great job of mixing the theories with the hands-on [practical work]… showing you how and why it works. They set you up really great with the skills that you need".* In support, South African graduate G4SA described an available, experienced tutor as *"someone who knows what they are doing…who has experience…where they expose us to the workplace…our mentor has gone out of her way to assist us".*

- **Student placement and mentorship**

According to students' views, the skills necessary for employment includes real-life work experience, and the practical application of knowledge and skills beyond academic and technical skills (British Council, 2015:8). American graduate G2US support this by explaining that *"[i]nstructors teach you how to do your degree, but it is up to you [student] to apply those skills either through work study programs, internships…whereby you can practice your skills you are learning".* As suggested by Asonitou (2014:286) and Wilson (2012:37), and discussed in section 3.8.3, the added value internships, mentorships and work placement programmes have contributed to graduate employability.

Exposure to and experience of work placement and mentorship assisted students with hands-on experiences and enhanced their self-development and maturity which is not always possible in either face-to-face or technology classrooms (Pop & Barkhuizen, 2013:28; Wilson, 2012:1). South African graduate G1SA described their work placement: *"We had to go out to get experiential training to know what the workplace is really about. We met up with the Project Manager of [Name of company]…there you got a clearer understanding of your studies…they introduced us to lots of things…that helped us".* However, tutor T1SA felt that *"[w]orkplaces need to be a bit more flexible, and have more graduate programmes".* This was supported by American student S1US who said that

> *It is nice if future employers involve themselves. Internships do happen. I know they [institution] have nursing students where some hospitals do internships. I think it can happen more than what it is.*

For both research institutions, internships and work placement programmes form part of their formal training. However, it was not reported as a prerequisite for obtaining a qualification on the American research site as suggested by Asonitou (2014:286). This was in contrary to the South African site, where manager M5SA reported that *"[s]tudents are required to visit a workplace to work 16 to 24 hours which contributes towards their diploma".*

- **Employer collaboration**

All participants mentioned employer collaboration to include partnership opportunities through career networking, employer advisory boards, job fairs and volunteer work. Chatterton and Rebbeck (2015:5) state that employers offer too little interaction and partnership opportunities. This was illustrated by American graduate G1US: *"[t]he theories and concepts are the core,*

but it would make sense if there is a partnership of the two in the long run". Chatterton and Rebbeck (2015:7) and Killen (2016:1), supported by Kalantzis and Cope (2012:25), identified authentic and real-life learning experiences to assist with developing graduateness. Developing professional interaction with employers, with the assistance and support of institutions, could assist students in building professional networking opportunities with future prospects.

A discussion on the need for employer collaboration follows next, and is discussed under (i) career networking, (ii) employer advisory boards, (iii) job fairs, and (iv) volunteering.

- ***Career networking***

Kinash (2015:10), supported by Axmann *et al.* (2015:20), proposed increased opportunities to support student work placement, experience and mentorship programmes through partnership building, knowledge sharing and the recommendation of graduates to future employers. American manager M2US explained that their curricula were inclusive of assignments with the workforce and said that *"[j]ob shadowing allows students to not only gain supervised, real-world practice, but also begin creating a network with local employers in their career fields".* This was supported by manager M1US who said that *"[s]tudents need to get involved and need to network and take advantage of opportunities provided to them through the college".*

On the South African site, tutor T4SA stated that *"[s]tudents must form networks with other people in their field of study or industry".* Students and graduates suggested that *"facilitators can assist and make recommendations [to employers] …if they know a student's performance was good"* (S2SA) and graduate G3SA suggested that *"[e]mployers should be invited to the college to link students with possible employment".*

- ***Employer advisory boards***

Both institutions expressed the involvement of employer advisory boards to assist with graduate employment possibilities. The key purpose of employer advisory boards is to support curricula development in line with employment needs, and to assist and make recommendations regarding the quality of graduates' 'fitness for purpose' (South Africa. Council on Higher Education, 2016:30). According to American tutor T4US, *"[e]mployer advisory boards should be strong, and their feedback should be utilized to keep skill sets current".* In support, American manager M2US stated that *"[a] lot of academic content choices are based on how employers feel students are prepared for the workforce and how well students feel they qualify for current employment".*

On the South African site, it was reported that *"[w]e try wherever possible to consult with industry and the relevant SETA to establish needs which are then used in our curricula".* However, South African tutor T4SA felt that *"[i]t must change, we must keep tabs of how others in the same industries are doing…especially industry leaders".*

- ***Job fairs***

Kinash (2015:10) suggested the development of strategies that are relevant to enhancing graduate employability through student-employer interactions where personal perspectives and experiences in different career fields are presented and students have opportunities to pose questions to employers. Both institutions indicated practicing employer collaboration through the use of career days and job fairs. American student S4US stated that *"[e]very year the college holds a fair. The different companies that are looking for workers come to the college, serve their tables, and you can walk through the career fair and you are shown your pathway through employment".* According to South African manager M5SA, *"[w]e do career days to assist students in choosing a career and explaining what the career entails".*

- ***Volunteering***

Based on the feedback received from South African graduates and students, and according to the British Council's (2015:1-2) in-depth research done in Africa, it was reported that graduates lack knowledge transferable into real-life situations, they have inadequate skills development, and students in less fortunate social circumstances have less exposure to volunteer work and intern opportunities. Student S3SA explained that *"I would have liked the institution to include a training period at a company to work as a volunteer. We really do not mind not getting paid for that while we study, but at least you are gaining work experience".* This is in line with Pheko and Molefhe's study (2016:8), where almost all their student participants mentioned their desire to be included into their educational institutions' voluntary work programmes preceding their graduation.

5.5 SUMMARY OF RESEARCH FINDINGS

In this multiple case study, qualitative questionnaires, individual interviews and e-mail interviews, supplemented by documents analyses, revealed that managing the quality of employability development for students in higher education using blended learning could be influenced by numerous factors. To best facilitate and simplify an understanding of the diverse

factors that could have an influence, a diagrammatic representation of influential factors accompanied by the challenges is represented in Figure 5.6 below.

Table 5-6: Research results on the factors that influence the management of quality in terms of employability development in higher education via blended learning: A comparative study.

21ST CENTURY TEACHING AND LEARNING	FACTORS IMPACTING ON THE QUALITY OF EMPLOYABILITY DEVELOPMENT OF STUDENTS IN HIGHER EDUCATION USING BLENDED LEARNING: A COMPARATIVE STUDY (RESARCH RESULTS)	
	AMERICAN SITE	**SOUTH AFRICAN SITE**
1. Technology immersed society	- Technology use in everyday life - Time spent with technology	
2. Technology learning versus traditional learning	- Convenience, more modern trends, versatile, work and study simultaneously	- Students intentionally looked for alternative learning
3. Blended learning versus fully online learning	- Best of both worlds	- Flexibility, variety of teaching-learning tools
4. Experiences and expectations • Quality assurance of teaching-learning content	- Preferred by students in most cases • *Managers and tutors:* - Positive if resources are used adequately ➢ **Challenges** • *Graduates and students:* - Uniform and consistent ➢ **Challenges**	- Students play more active part in their learning • *Managers and tutors:* - Interactive, relevant, accessible ➢ **Challenges** • *Graduates and students:* - Positive ➢ **Challenges**
• Interaction with others	• *Managers and tutors:* - Interactive built-in platform ➢ **Challenges** • *Graduates and students:* ➢ **Challenges**	• *Managers and tutors:* - WhatsApp and Google Classroom ➢ **Challenges** • *Graduates and students:* - Interaction was personal and direct
• Institutional administration	• *Managers and tutors:* - Automated functionalities ➢ **Challenges** • *Graduates and students:* - Clear hierarchy of reporting	• *Managers and tutors:* ➢ **Challenges** • *Graduates and students:* ➢ **Challenges**
• Technical and student support	• *Managers and tutors:* - Clear institutional support structures ➢ **Challenges** • *Graduates and students:* - Acceptable with good turnaround times	• *Managers and tutors:* - Class group discussions and social media assistance ➢ **Challenges** • *Graduates and students:* - Available through face-to-face interaction ➢ **Challenges**
• Tutor suitability and training	• *Managers, tutors, graduates and students:* ➢ **Challenges**	• *Managers, tutors, graduates and students:* ➢ **Challenges**

<table>
<tr><td rowspan="2">21ST CENTURY TEACHING AND LEARNING</td><td colspan="2">FACTORS IMPACTING ON THE QUALITY OF EMPLOYABILITY DEVELOPMENT OF STUDENTS IN HIGHER EDUCATION USING BLENDED LEARNING: A COMPARATIVE STUDY (RESARCH RESULTS)</td></tr>
<tr><td>AMERICAN SITE</td><td>SOUTH AFRICAN SITE</td></tr>
<tr><td>• Challenges</td><td>• Managers and tutors:
- Lack of tutor response to students
- Students' inability to ask questions in real time
- Students' lack of online participation
- Need for more simplified software
- Tutors need improved administrative rights to make changes on online platform
- Different online systems by different faculties
- Complicated online textbook publishers
- Lack of interaction compared to face-to-face</td><td>• Managers and tutors:
- Language issues
- Students' poor time management/procrastination
- Broken technological devices
- Network strengths
- Cost of data and airtime
- Students living in rural areas
- Lack of computer skills
- Fear of / resistance to technology
- Plagiarism
- Students copy work from one another</td></tr>
<tr><td></td><td colspan="2">• Corresponding challenges for managers and tutors:
- Grading of student work took longer, technical difficulties</td></tr>
<tr><td></td><td>• Graduates and students:
- Frustration at absebce of direct assistance
- Lack of self-motivation/discipline
- Poor quality content
- Online etiquette
- Misinterpretations between tutor and student</td><td>• Graduates and students:
- Lack of responsibility
- Fear of technology
- Lack of computer skills
- No electronic devices to access learning
- Limited computer lab space
- Network overloaded</td></tr>
<tr><td></td><td colspan="2">• Corresponding challenges for graduates and students:
- Transition from face-to-face, training on online platform, technical difficulties, quality and/or availability of internet connection in remote areas</td></tr>
<tr><td>5. Teaching-learning styles</td><td colspan="2">• Tutors, graduates and students
- Teaching and learning styles have changed</td></tr>
<tr><td>6. Understand and apply learning for practical purposes</td><td colspan="2">• Graduates and students
- Increase in metacognitive skills
➢ Challenges</td></tr>
</table>

STRENGTHEN STUDENT GRADUATENESS	FACTORS IMPACTING ON THE QUALITY OF EMPLOYABILITY DEVELOPMENT OF STUDENTS IN HIGHER EDUCATION USING BLENDED LEARNING: A COMPARATIVE STUDY (RESARCH RESULTS)	
	AMERICAN SITE	**SOUTH AFRICAN SITE**
1. Twenty-first century employability expectations • Workforce needs	• *Managers and tutors* - Improved technology skills - Guidance and positive reinforcement - Non-curricular skills ➢ **Challenges**	• *Managers and tutors* - Need for knowledge and skills - Student guidance and support - High emphasis on theory ➢ **Challenges**
	- Too high career expectations of students	
	• *Graduate and students* - Flexibility/Innovative learning - Curricula is current and up to date ➢ **Challenges**	• *Graduate and students* - Workplace exposure - Theory versus practical learning ➢ **Challenges**
	• *Managers and tutors* - Innovation - Economy - Career Coaching - Constant use of technological devices ➢ **Challenges**	• *Managers and tutors* - Job seeking skills • *Managers, tutors, graduates and students* - Cost to find work - Corruption - Nepotism ➢ **Challenges**
	- Gap between graduateness and employer expectations - Motivation/willingness - Attitude	
	• *Graduates and students* - Theory versus practical ➢ **Challenges**	• *Graduates and students* - Economic growth - Quality of education - Current curricula - Work experience - Face-to-face schedules ➢ **Challenges**

STRENGTHEN STUDENT GRADUATENESS	FACTORS IMPACTING ON THE QUALITY OF EMPLOYABILITY DEVELOPMENT OF STUDENTS IN HIGHER EDUCATION USING BLENDED LEARNING: A COMPARATIVE STUDY (RESARCH RESULTS)	
	AMERICAN SITE	**SOUTH AFRICAN SITE**
• Career-focused skills	Table 5.2: Employability skills highlighted by participants Table 5.3: Skills rated highest by participants Table 5.4: 21st Century Skills Framework (Griffen, *et al.*, 2013:56), Clusters of 21st Century Competencies (National Research Council, 2012:2-12), with twelve highest rated employability skills as indicated by participants included.	
• Employability curricula	• *Managers, tutors, graduates and students* - Inclusion of employability skills - Changes in curricula - Employer needs - Real-world experiences - Cross-border exchange ➢ **Challenges**	• *Managers, tutors, graduates and students* - Practical training - Workplace experience ➢ **Challenges**
2. Graduate qualifications and employability	• *Managers, tutors, graduates and students* - Linked to real world and life	• *Managers, tutors, graduates and students* - NQF, SAQA, SETA ➢ **Challenges**
3. Technology integration to advance employability development:	• *Managers, tutors, graduates and students* - Technology learning linked to graduateness - Proper use of technology ➢ **Challenges**	• *Managers, tutors, graduates and students* - Technology learning linked to different skills sets ➢ **Challenges** - Proper use of technology - Create online presence

INSTITUTIONAL GUIDANCE AND SUPPORT	FACTORS IMPACTING ON THE QUALITY OF EMPLOYABILITY DEVELOPMENT OF STUDENTS IN HIGHER EDUCATION USING BLENDED LEARNING: A COMPARATIVE STUDY (RESARCH RESULTS)	
	AMERICAN SITE	**SOUTH AFRICAN SITE**
1. Student support in making career decisions • Setting students' educational goals • Career assessment • Endorsement of career-readiness	- Institutional support - Collaboration with career advisors - Online self-paced programmes	➢ **Challenges** - Important aspect ➢ **Challenges** ➢ **Challenges** - Workplace visits ➢ **Challenges**
2. Assisting students to find employment • Career development advisors • Faculty • Student placement and mentorship • Employer collaboration i. Career networking ii. Employer advisory boards iii. Job fairs iv. Volunteering	- Career development department - Included in formal curricula - Link teaching to skills development - Included in formal training - Partnerships - Local employers - Support in curricula development - Career fairs ➢ **Challenges**	➢ **Challenges** ➢ **Challenges** ➢ **Challenges** - Prerequisite for qualification ➢ **Challenges** ➢ **Challenges** - Consult with SETAS ➢ **Challenges** - Career days ➢ **Challenges** ➢ **Challenges**

Table 5.6 illustrates the findings of the research in terms of the influential factors and challenges when managing the quality of student employability development in higher education using blended learning. The diagram illustrates that the quality of employability development through blended learning is determined by three factors that represent the three themes of this comparative study, namely: 1) 21st century teaching and learning; 2) strengthening student graduateness; and 3) institutional guidance and support. Each theme has several categories and subcategories. The themes, including the categories and subcategories, each presented challenges that impact managing the quality of employability development when blended learning is used. The views of participants were divided between the American and South African research sites. The views of managers, tutors, graduates, and students are illustrated according to research site. Corresponding views are centred across the two sites. These are now discussed further.

The first theme was impacted by six categories, namely: 1) technology-immersed society, determined by the time participants spend with technology; 2) technology learning versus traditional learning. American participants preferring the prior as convenient, more modern and versatile. South African students intentionally looking for alternative learning options. In category 3, blended learning versus fully online learning included learning as the best of both worlds for American participants, and the flexibility and variety of teaching-learning tools for South African participants. In category 4, the experiences and expectations of using technology in learning was influenced by participants' experiences and expectations. This accentuated influential factors such as the quality assurance of teaching-learning content, interaction with others, institutional administration, technical and student support, tutor suitability and training – including the challenges participants experienced on both research sites, together with corresponding challenges across the cases. In category 5, teaching-learning styles were discussed, and category 6 was about understanding and applying learning for practical purposes.

The second theme, namely to strengthen student graduateness, was impacted by challenges as illustrated in the three different categories. These were highlighted as 1) expectations of 21st century employability, workforce needs, career-focused skills emphasised by participants, and employability curricula and emerging challenges; 2) graduate qualifications and employability, which American participants associated with the real world and South Africans applied to NQF, SAQA and SETA accreditation and related challenges. Category 3 referred to the

integration of technology to advance employability development and portrayed the differing and corresponding views of participants on both sites with the challenges involved.

The third theme is impacted by two categories, namely, 1) student support in terms of career decisions, including the setting of educational goals, career assessment, and the endorsement of career readiness with the challenges experienced by participants on the South African research sites. Category 2 is assisting students to find employment. A career development department and career advisors are included in American participants' formal curricula, with faculties including skills development in their teaching. For American participants, student placement and mentorship are included in the formal curricula, and both are prerequisites for graduation on the South African site. Employer collaboration includes career networking, employer advisory boards, job fairs, and volunteering – challenges in this regard were particularly indicated by participants on the South African site.

Having presented the summarised research findings with an accompanying diagrammatical representation indicating the factors that affect managing the employability of students in higher education through blended learning, what follows is a model to support the development of employability through blended learning.

5.6 A MODEL TO SUPPORT EMPLOYABILITY DEVELOPMENT THROUGH BLENDED LEARNING

The employability model is grounded in the theoretical framework for adult teaching and learning in blended environments, as discussed in chapter 2, and supported by technology integration towards a knowledge workforce, as discussed in chapter 3. This includes the empirical findings discussed in section 5.4 above. The effectiveness of a blended learning approach in this study is impacted by three concentric circles depicted in this model. These circles are marked as the macro, meso, and micro-level approaches to employability development, which ultimately encircles blended learning used in teaching-learning. Figure 5.1 below illustrates the influence each level has on managing the quality of employability development through blended learning.

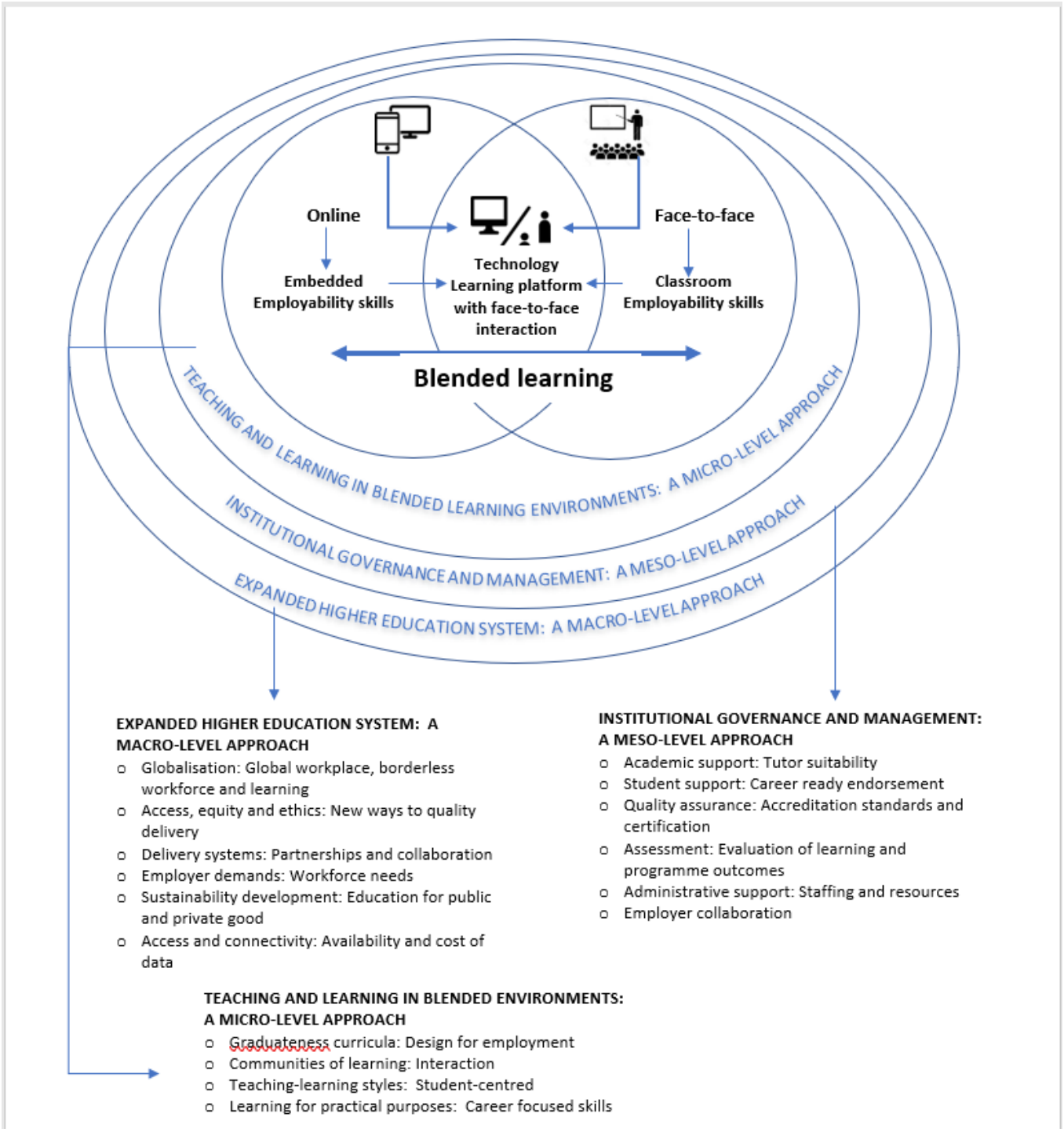

Figure 5-1: Model to support employability development in blended learning environments

Blended learning, which incorporates both online and face-to-face teaching-learning for employability development, is influenced by 1) an expanded higher education system (outer circle), 2) institutional governance and management (inner circle), and 3) teaching-learning in blended learning environments (innermost circle). Each circle contains related elements that

influence employability development. These elements are indicated with arrows and are marked with bullets that indicate the aspects affecting each approach.

5.6.1 Expanded higher education system: A macro-level approach

Figure 5.1 depicts six elements of an expanded higher education system from a macro-level approach. These play a role in effecting more relevant 21st century teaching-learning in adult education to promote graduate employability as discussed in chapter 2 (cf. sections 2.3.1; 2.3.1.5), chapter 3 (cf. section 3.4 and Figure 3.2) and in the empirical findings discussed in section 5.4.1 above. Ripmeester, (2016:125), Jones, (2016:108) and the World Economic Forum (2015:15) reiterate that higher education departments cannot ignore the changing knowledge economy and should respond to industry needs. The six elements depicted under an expanded education system are:

5.6.1.1 Globalisation: Global workplace, borderless workforce, and learning

Globalisation refers to employability skills that are embedded in the formal curricula to facilitate employment in a 'global workplace' as part of a 'borderless workforce' (Tarique, 2014:6) through 'borderless learning' (Knight as cited in Spring, 2015:96), which allows them to study anywhere on the globe (cf. section 5.4.1; 3.4.1).

5.6.1.2 Access, equity and ethics: New ways to quality delivery

This second element deals with the recognition of education as a driver of economic recovery in both developed and developing countries. It focuses on new learning designs and employability development to ensure access and social equity (University of Oxford, 2015:15; Rose, 2014:7; Beetham, 2013:269), regardless of economic and geographical location (cf. sections 5.4.1; 5.4.1.1; 5.4.1.4.f; 5.4.1.6; 3.4.2).

The effectiveness of blended learning includes policies to advance programme ethics, equity, and access (Simonson & Schlosser, 2013:437) with clear guidelines on the ethical use of technology and communication (cf. sections 5.4.1.4.f; 5.4.2.1.a; .5.4.3.2. a; 3.4.2), more flexible forms of delivery (cf. sections 5.4.1; 5.4.1.4; 5.4.2.1), and diversified learning opportunities (Miron, 2016:79; Korka, 2016:90).

5.6.1.3 Delivery systems: Partnerships and collaboration

The theoretical research findings (De Wit, 2016:17; Hudzik, 2016:27; Spring 2016:116) highlighted global collaboration through the development of partnerships as the third element. Delivery systems are devoted to quality, diversity and the internationalisation of curricula with opportunities to reinforce research and influence programme content across borders and institutions. It also aims to advance knowledge and skills of global concern (cf. sections 5.4.2.1; 3.4.3), allowing graduates to operate in cross-institutional projects and exchange programmes (cf. sections 5.4.1.3; 5.4.2.c). Cross-border collaborations via technology create opportunities for students to improve relevant skills that are no longer limited to local use only.

5.6.1.4 Employer demands: Workforce needs

Employer expectations is the fourth element in Figure 5.1 and pertains to employers' concern over graduates' lack of employability skills (cf. sections 5.4.2; 3.9; 3.9.1;) and how programmes feed into the labour market. Ripmeester (2016:124), Hora *et al.* (2016:206), and Jones (2015:97) maintain that the workforce needs graduates with skills sets transferable to the workplace (5.4.2.1; 5.4.2.1.a; 5.4.2.1.b; Table 5.4; 5.4.2.1.c), and students need to know how their skills relate to employment.

5.6.1.5 Sustainability development: Education for public and private good

The fifth element deals with the sustainability of learning in a changing global landscape to produce graduates with a set of qualities conducive to graduateness for own and public good (cf. sections 3.4.4; 5.4.1.6; 5.4.2; 5.4.2.3). Greig (2015:28), Dryson and Taylor (2015:637) and Van Schalkwyk *et al.* (2013:97), endorse curricula adjustments towards sustainability, employability and future employment (cf. sections 5.4.2; 5.4.2.1).

5.6.1.6 Internet connectivity: Cost and availability of data

Learning anywhere, any way, and at any time is hampered by the lack of or unreliability of internet access, connectivity and stability, and is also affected by the cost of airtime and data (cf. sections 5.4.1.4.f; 3.5.2; 3.7; Table 5.5). This is the sixth major consideration in an expanded higher education system (Killen, 2016:1; Tandoh *et al.*, 2014:22-23), particularly for students living in remote areas (cf. sections 5.4.1.4.f; 5.4.1.6; Table 5.5).

5.6.2 Institutional governance and management: A meso-level approach

Figure 5.1 depicts six elements encompassed in institutional governance and management from a meso-level approach to indicate diverse responsibilities institutions need to fulfil using blended learning for graduateness (cf. chapter 2, sections 2.7; 2.7.1; chapter 3, section 3.5; and the empirical findings discussed in section 5.4.1). This is further confirmed by Korka (2016:90), Ross (2014:180), Gladstone-Millar *et al.* (2012:210), and Quinton (2012:72), who all maintain that the biggest challenges for institutions are changing academic cultures and managing those changes. The six elements depicted under institutional governance and management are:

5.6.2.1 Academic support: Tutor suitability

This element entails the quality of tutoring staff to address 21st century teaching-learning (Axmann *et al.*, 2015:17; World Economic Forum, 2015:8; Hicks, 2014:267), and to promote more flexible and innovative teaching-learning strategies when teaching with technology (cf. sections 5.4.1.4.e; 5.4.3.2.b; 3.5.1).

5.6.2.2 Student support: Endorsement of career-readiness

Student support is about the necessity of setting educational goals for students in addition to doing career assessment, development and guidance (cf. sections 5.4.1; 5.4.3.1; 3.5.2; Table 5.5) to improve graduateness (Valentine, 2017:3; Department of Higher Education and Training, 2015:8; Schreiber, 2014:24; South Africa. Council on Higher Education, 2013:155; South Africa. Council on Higher Education, 2013:167).

5.6.2.3 Quality assurance: Accreditation, standards and certification

Baijnath (2016: ix), Webbstock (2016:5) and South Africa's Council on Higher Education (2016:30) recommended the establishment of advisory boards, quality assurance processes and minimum standards (cf. sections 5.4.2.1.c; 5.4.2.2; 5.4.3.2.d.ii; 3.5.3).

5.6.2.4 Assessment: Evaluation of learning and programme outcomes

In element four, evidence of learning outcomes assists employers to understand prospective employees' knowledge, skills and competencies (cf. sections 3.5.4; 5.4.2.1; 5.4.2.1.a; 5.4.2.1.b; 5.4.2.1.c; Table 2.1; Table 5.4), and assist policymakers, institutional management, tutors and students to gauge the feasibility of programmes and to improve teaching-learning strategies (Deardorff, 2016:84; OECD as cited in Latchem (2014:332; Cook, 2012:21,27).

5.6.2.5 Administrative support: Staffing and resources

Administrative support, the fifth element, reviews support systems that affect the operation of administrative and instructional tools that facilitate the flow of information, record keeping, reports, technical support, curriculum management software, assignments, discussion forums and more (cf. sections 3.5.3; 5.4.1.4.c; 5.4.1.4.d; Table 5.1; Table 5.5). These are essential building blocks for favourable learning outcomes (Cornescu & Adam, 2016:385; Van Tonder, 2015:115; Picciano, 2011:231).

5.6.2.6 Employer collaboration

The sixth element outlines career networking, employer advisory boards, job fairs and volunteering as they relate to institutional governance and management (cf. sections 3.8.3; 3.8.4; 5.4.3.2.d.i; 5.4.3.2.d.ii; 5.4.3.2.d.iii; 5.4.3.2.d.iv). The value these elements add to employability is evident from the theoretical research findings (Asonitou, 2014:286; Wilson, 2012:37).

5.6.3 Teaching and learning in blended environments: A micro-level approach

Figure 5.1 depicts four elements encompassed in teaching and learning in blended environments from a micro-level approach. These are face-to-face and web-based teaching-learning approaches that allow transition from individual to participative, tutor-directed to student-led, and from traditional classroom to any other setting (ICEF, 2015:1; Sibbel, 2014:18). These were discussed in chapter 2 (cf. sections 2.7; 2.7.1), chapter 3 (cf. section 3.6) and the empirical findings (cf. sections 5.4.1.3; 5.4.1.4; 5.4.1.6; 5.6; Table 5.1; Table 5.5).

5.6.3.1 Graduateness curricula: Design for employment

In Figure 5.1, graduate qualification and employability are depicted as the first element under teaching and learning in blended environments (cf. sections 5.4.2.2; 5.4.2.3; 3.6.1) to enable curriculum design towards graduateness with technology integration (Bhorat, Cassim & Tseng as cited in Allais, 2017:153; Holtzhausen, 2012:185).

5.6.3.2 Communities of learning: Interaction

The second element indicates social collaboration through blended learning (cf. sections 5.4.1.2; 5.4.1.4.b; 5.4.1.4.f; 3.6.2; Table 5.1) to enhance graduateness (Paciotti, 2013:109; Kalantzis and Cope, 2012:25).

5.6.3.3 Teaching-learning styles: Student-centred

Student-centred teaching-learning styles in Figure 5.1 is depicted as the third element. This refers to the characteristic ways students prefer to receive, and tutors prefer to deliver information (Van Tonder, 2015:77; Rabbit, 2013:2; Nienaber, 2012:452) when learning in blended environments (cf. sections 5.4.1.5; 3.6.3; Table 5.1).

5.6.3.4 Learning for practical purposes: Career-focused skills

The fourth and last element presents a focus on understanding and applying learning in the workplace, with career-specific skills (Lane, 2016:47; Alpert as cited in Minsky, 2016:1) obtained through an increase in metacognitive skills acquired while using technology to learn (cf. sections 5.4.1.6; 3.7; 2.3.1.2; Table 5.1).

5.7 CONCLUSION

This chapter connected the analysed data obtained from the multiple cases to the findings presented in this study. Institutional management members and tutors on the American and South African research site completed qualitative questionnaires. Individual virtual interviews were conducted with graduates and students on the same sites, and these were supported by e-mail interviews if more clarification was needed to address the research problem as discussed in section 1.5. The researcher indicated how data from the different data collection instruments were analysed and developed into themes, categories and subcategories. From the emerging themes, the research findings were discussed using verbatim accounts of participants in the study. Various learning theories together with relevant evidence from the literature review conducted in chapters 2 and 3 were applied to support the findings. Based on the research findings, a model to manage quality employability development in higher education through blended learning was developed and presented. The next and final chapter provides a summary of the research, indicating the conclusions reached and demarcating areas for further research. The chapter provides recommendations and highlights the limitations of this study.

CHAPTER SIX: SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

"...it is at this point in the research when the rubber hits the road…" (Schutt, 2012:492).

6.1 INTRODUCTION

The core problem investigated in this study was:

How should blended learning be applied in higher education to advance the employability skills of graduates?

The aims emanating from the problem statement were to provide evidence-based research on how the quality of employability development in higher education, offered via blended learning, should be managed to prepare graduates for a diverse world of work through inclusive development.

As reflected in Chapter 4, specific objectives were set to determine:

- The experiences and expectations of students, graduates, tutors, and institutional management regarding the use of technology in blended teaching-learning.
- The views of students, graduates, tutors and institutional management on the skills required to become employed, and
- The experiences students, graduates, tutors and institutional management had of institutional assistance towards employability development.

Furthermore, a model was designed to support employability development in blended learning environments for the two research institutions included in this study. The design of the model was based on the findings from the literature review conducted in Chapters 2 and 3, and the results that flowed from the empirical study presented in Chapter 5. This chapter presents a summary and conclusions drawn from the literature review at the beginning of the study and the findings from the empirical study. Recommendations for managing the quality of employability development through blended learning in higher education are suggested, and the limitations of this research and recommendations for future study are discussed.

6.2 SUMMARY OF THE STUDY

In Chapter 1, the researcher gave an overview of the world-wide phenomenon of inadequate development of employability skills in higher education. Various factors became matters of concern for all stakeholders (section 1.1). Blended learning approaches that consist of a technology platform blended with face-to-face learning were discussed (section 1.2). Students in the 21st century grew up with technology, and required more innovative and flexible opportunities to enhance their 21st century skills (section 1.3; Table 1.1).

Furthermore, options were presented for managing the quality of employability development using technology to teach and learn (section 1.4). The problem statement contained the vision of access to the highest possible quality education with highly skilled graduates in section 1.5, followed by a theoretical framework for adult teaching-learning approaches in a digital age (section 1.6). To provide evidence-based research on how the quality of graduateness in higher education using blended learning should be managed, objectives were determined in the aims of the study (section 1.7).

The theoretical framework drove the research strategy and design (section 1.8), which enabled the researcher to understand the views and experiences from participants' real-life situations through a qualitative research design. A case study research methodology (section 1.8.1) allowed the researcher to explore, describe and compare multiple cases for similarities and variations within and across the selected cases. Through purposeful case and site selection (section 1.8.2) the researcher selected a multiple case study that consisted of four cases with blended learning experience, in order to seek as much variation as possible. For the purpose of triangulation and confirmation, five different methods were used for data collection (section 1.8.3). Data analysis and interpretation (section 1.8.4) guided the researcher with the coding of concepts that appeared across the data and were then condensed into themes, categories and sub-categories. Trustworthiness (section 1.8.5) was illustrated by the consistency of answers when different methodologies were applied, and participants were engaged in member checking for justification purposes. With the assistance of gatekeepers, all ethical measures (section 1.8.6) pertaining to participant consent, voluntary participation, privacy, anonymity and confidentiality were adhered to, as this also reflected on the researcher's integrity and character. In order to create a common understanding, the key concepts used in the study were defined (section 1.9), followed by an outline of the six chapters presented as the structure of the study (section 1.10). Concluding remarks for Chapter 1 were presented (section 1.11).

Chapter 2 focused on adult learning and learning approaches, diversity teaching and learning, and teaching and learning styles in blended learning environments (section 2.1). The nature of adult learning (section 2.2) and the different views of learning were discussed. Learning as a process of getting to know new things was presented in learning theories (section 2.3), which explained how adult learning (section 2.3.1) works:

- Behaviourism – where learning equals a change in behaviour (section 2.3.1.1).
- Cognitivism – learning equals a mental process involving intellect, visualisation, theorising and reasoning to process information (section 2.3.1.2; Table 2.1).
- Humanism – learning equals individual development where human beings control their own destiny, are independent, self-directed and internally motivated (section 2.3.1.3).
- Constructivism – where learning equals meaning derived from experience as the consequence of interaction between new experiences and what has already been created (section 2.3.1.4).
- Online collaborative learning – seen as the learning theory of the 21st century where information is available at one's fingertips and technology is used for knowledge building using innovative ways to solve problems through interaction with others (section 2.3.1.5).

Adult learning approaches (section 2.3.2) focused on the different ways adults learn in order to create meaning. The self-directed learning preferences of adults were presented as:

- Experiential learning (section 2.3.2.1), where adults' experiences shape their learning – positively or negatively – and all forms of learning are experiential.
- Transformative learning (section 2.3.2.2), where adults make sense of their own world experiences and their meaning-making process becomes transformed into one that is more accommodating to their real life.
- Self-directed learning (section 2.3.2.3) is the preferred style for adults to direct the different aspects of their lives.
- Ubiquitous learning (section 2.3.2.4) takes place at any time, in any place, and in any way and relates to 21st century learning.
- Lifelong learning (section 2.3.2.5) continues to learn beyond formal education, provided there is access to learning, and learning opportunities are flexible.

The learning process (section 2.4) and meaningful learning (section 2.5) were explained, followed by the different factors that motivate adults to learn (section 2.6; Figure 2.1). The

strengths of both traditional and online delivery modes in blended learning were discussed (section 2.7) and further elaborated on in the context of higher education (section 2.7.1). This included the benefits, challenges and implementation (section 2.7.1.1) and the blending of face-to-face and technological learning (section 2.7.1.2). A foundation for effective teaching and learning in blended environments (section 2.7.2) was laid out with evidence of learning progress (section 2.7.2.1) and evidence of teaching progress (section 2.7.2.2). Transportation of adult learning (section 2.7.2.3) portrayed adult learning as a process-centred rather than a place-centred activity when using technology in learning.

Learning styles and teaching styles (section 2.8), with the interrelationship between teaching and learning style preferences (section 2.8.1) and learning, teaching style, and technology (section 2.8.2) were discussed. Concluding remarks were presented in section 2.9.

In Chapter 3 the researcher conducted an in-depth literature review of the integration of technology in the development of employability skills (section 3.1). The management of quality, innovation and change (section 3.2) were discussed with a set of measurements presented as performance indicators for higher education (section 3.2.1). The focus on 21st century teaching and learning was explained (section 3.2.2), including a global perspective on higher education (section 3.2.2.1) and a South African perspective on higher education (section 3.2.2.2).

Managing blended teaching and learning environments (section 3.3) and an outline of an expanded higher education system on macro-level were offered (section 3.4; figure 3.1), including revelations from graduates (figure 3.2). An expanded higher education system on a macro-level was presented as:

- Globalisation: a global workplace, a borderless workforce (section 3.4.1).
- Access, equity and ethics: finding new ways to quality delivery (section 3.4.2).
- Delivery systems: institutional partnerships and sharing of good practices (section 3.4.3).
- Sustainability development: educational progress for public and private good (section 3.4.4).

A meso-level approach to institutional governance and management (section 3.5) was discussed according to the following aspects:

- Academic support: tutor training, development, support and evaluation (section 3.5.1).

- Student support: career advice services, counselling and technical support (section 3.5.2).
- Quality assurance: accreditation, certification, standards and student retention (section 3.5.3).
- Assessment: evaluation of learning and programme outcomes (section 3.5.4).
- Staffing and administration: resources and support (section 3.5.5).

A micro-level approach to teaching and learning in blended learning environments (section 3.6) offered explanations on:

- Instructional design: curriculum and programme development (section 3.6.1).
- Interaction and communication: learning communities (section 3.6.2).
- Individual attributes: teaching and learning (section 3.6.3).

Employability skills development in a digital age (section 3.7) was discussed, accompanied by the outline of an employability skills agenda (section 3.8; Table 3.1) which included:

- Foundation programmes (section 3.8.1) to prepare students for their studies and their lives as students.
- General education programmes (section 3.8.2) to prepare students for their future roles as citizens, employees, employers, community members, and more.
- Work placement, experience and mentorship programmes (section 3.8.3) address the value of internships and work placement programmes.
- Volunteer work (section 3.8.4) deals with collaboration between educational institutions, community and employment.
- Employability awards (section 3.8.5) address rewards given for recognition of outstanding achievements.
- Career development (section 3.8.6) explains the value of career guidance offices.

Furthermore, student graduateness and employability (section 3.9) were presented and included the expectations and experiences from higher education, employers and graduates (section 3.9.1) and the challenges unemployment poses for graduates (section 3.9.2). Chapter 3 concluded (section 3.10) with an admission from relevant stakeholders of students' acquired skills and the skills expected in the workplace.

In Chapter 4, the research design used for the empirical study, which originated from the research questions and aims of the study (section 4.2), was discussed. A qualitative research

strategy and design (section 4.3) was adopted to build rich descriptions of participants' experiences, views and opinions, by following an interpretive, social constructivist philosophy through active collaboration with individual participants. The researcher applied the case study research methodology (section 4.4) where four cases were compared in a multiple cases study. Section 4.4.1 gave a brief discussion of participants and sites selected, including the multiple cases selected (section 4.4.1.1.). Table 4.1 outlined the number of participants in the study, followed by the code names allocated to each participant (Table 4.2), and a profile outline of individuals (Table 4.3). In section 4.4.1.2, the roles of the gatekeepers were presented, followed by a discussion on replication logic (section 4.4.1.3), the purpose of maximum variation (section 4.4.1.4), the case study rules of conduct (section 4.4.1.5), and how the multiple case study was defined and bounded (section 4.4.1.6). Data collection (section 4.4.2) methods used in this study included document analysis (section 4.4.2.1), individual virtual interviews (section 4.4.2.2), a pilot test (section 4.4.2.3), electronic qualitative questionnaires (section 4.4.2.4), and e-mail interviews (section 4.4.2.5).

The collected data was analysed according to Creswell's (2013:183) data analysis spiral, which was illustrated in section 4.4.3 and Figure 4.1. Ensuring research quality (section 4.4.4; Table 4.1) in this study, trustworthiness (section 4.4.4.1), and the researcher's role (section 4.4.1.2) were also presented, including the ethical measures (section 4.4.5) the researcher took, which included:

- Voluntary informed consent (section 4.4.5.1).
- Anonymity and confidentiality (section 4.4.5.2).
- Maintaining honesty and openness (section 4.4.5.3).

Chapter 4 concluded (4.6) with a summary of the chapter.

In Chapter 5 the researcher focused on the analysis of data and the discussion of the findings from the empirical study conducted with students, graduates, tutors and institutional management members on two research sites. In section 5.1, an introduction to Chapter 5 was followed by a data presentation (section 5.2) and the development of themes and categories (section 5.3; Table 5.1). The three main themes that emerged from the data were:

- 21st century teaching and learning (section 5.4.1).
- Strengthening student graduateness (section 5.4.2).
- Institutional guidance and support (section 5.4.3).

The findings of the study (section 5.4) were presented with verbatim quotations from participants and a summary of the research finding were offered (section 5.5; Table 5.5) accompanied by a model to support employability development using blended learning (section 5.6; figure 5.1). The chapter concluded (section 5.7) with an outline of the findings.

Chapter 6, which is the present chapter, deals with the summary, recommendations and conclusions of the study. An introduction was presented (section 6.1) and section 6.2 gave a summary of the literature review and the empirical study. The conclusions from both the literature studied and the empirical study are presented in section 6.3. In the concluding sections of this study, recommendations based on the main findings are offered (section 6.4), and in section 6.5 possible future research is identified. In the final part of this chapter, the limitations of the study are given (section 6.6) and a conclusion is presented (section 6.7).

6.3 CONCLUSIONS OF THE STUDY

Based on the findings from the literature review on managing the quality of employability development in higher education using blended learning, and the findings of the empirical study, the research presented specific conclusions.

6.3.1 Conclusions from the literature study

An in-depth literature study was conducted on employability development in higher education through blended learning, where adult learning approaches, managing quality blended teaching-learning environments (macro, meso, and micro-level perspectives), and employability development in a digital age were investigated.

6.3.1.1 Adult learning approaches

The literature study conducted (section 2.1; section 2.2; 2.3.2) confirmed that adult teaching and learning is inevitability influenced by the world we live in at any given time. Globalisation, technology, and the knowledge economy influence how adults prefer to participate and invest their time and space. It is evident that a one-for-all teaching-learning approach does not suit the needs of society today or fosters an all-inclusive teaching-learning approach, and the interaction between technology and globalisation in a digital age are shaping not only the context of learning, but learning itself (Merriam & Bierema, 2014:5). It is clear that adult students' approaches and preferences for self-direct learning relate to how they are used to directing different aspects of their lives (section 2.3.2; section 2.3.2.3; section 2.3.1.3). With

the virtually unlimited advancement of digital technologies, it appears that ubiquitous learning can provide students with the access and freedom to develop a wide range of options and choices (section 2.3.2.4). It is further evident that the richest resources for learning reside in students themselves when they tap into one another's experiences through collaborative activities such as group discussions, peer-assisted activities, and more (section 2.3.2.1; section 2.3.1.5). Through collaboration and active engagement, students construct meaningful relations between theory and practice and transfer those experiences into real-life situations (section 2.3.2.2; section 2.3.1.4; section 2.3.1.1; section 2.5). From the literature studied, it is clear that the increasing variety of digitally available resources and changing information environment demand a rethink of pedagogical approaches where adult students take control of their own learning through experience and collaboration, including a commitment to lifelong learning beyond formal education opportunities (section 2.3.2.4; section 2.3.2.5). For adult students, there are many motivating factors that contribute to successful learning (section 2.6; figure 2.1).

6.3.1.2 Management of quality, innovation and change

The literature studied confirmed that higher education the world over operates in a continuously changing and uncertain environment (section 3.2). Concerns that, despite unsatisfactory academic quality outcomes, high unemployment and inadequate skills training, education institutions seem to have programmes that survive indefinitely. This poses challenges to the fitness for purpose of educational managements as well as their fitness for survival to include more flexible and innovative management approaches to learning (section 3.2.1). 21st century teaching and learning requires rapid transformation, with a reshape of higher education management and governance to adequately respond to the changing demands. It is evident that 21st century expectations (section 3.2.2) are almost impossible to achieve without integrating technology into the classroom.

- **A global perspective on higher education**

Globally, countries express commitment to transforming the quality of learning and improving learning outcomes towards lifelong learning, including employability skills in formal curricula (section 3.2.2.1). Having said that, the inclusion of skills development into the formal curriculum should be further explored (Asonitou, 2015:285).

- **A South African perspective on higher education**

Since South Africa's dawn of democracy in 1994, student numbers have increased dramatically (section 3.2.2.2), as has the demand for technology to accommodate student numbers and enhance skills development. The focus on technology is to enhance economic advancement and skills development (South Africa. Council on Higher Education, 2016:10). Besides different modes of delivery and specific sites where technology learning can be promoted, little knowledge and feedback is available on how the quality of learning should be managed when technology is used for learning. This is particularly disturbing in light of South Africa's high unemployment rate due to inadequate skills and skills shortages.

6.3.1.3 Managing quality blended teaching-learning environments

Evidence from the literature study confirmed that blended learning transpired as an option that offers enormous potential in higher education (section 2.7; section 2.7.1; section 3.6). Despite the potential of blended learning to incorporate the strengths of both traditional and online learning, there are challenges in the technology classroom (section 2.7.1.1). It is evident that inadequate technological equipment, network strength, cost of airtime, students residing in remote areas, online distractions, lack of communication protocol, the fear of using technology, and lack of computer skills are challenging issues. Effective teaching-learning in blended environments (section 2.7.2; section 3.3) requires a paradigm shift from all stakeholders. The rate at which digital technologies are expanding should be acknowledged, and higher education institutions have to admit that they are no longer the sole owners and distributers of knowledge (section 2.7.2.1). More is required to transform the teaching profession (section 2.7.2.2; section 3.3) towards fulfilling the needs of students to become lifelong and life-wide individuals. Individual teaching and learning styles determine the ways adult students prefer to receive new information, and tutors prefer to facilitate information (section 2.8; section 3.6.3), particularly when technology is used in learning (section 2.8.2).

- **A macro-level perspective**

It is evident that government-led actions in countries drive change (section 3.4) and from a macro-level perspective countries are expected to address the changing needs of youth and students to improve their skills. Globally, students want to understand how meaningful and suitable their learning is in relation to employment (figure 3.2). The role of globalisation (section 3.4.1), calls on the reinvention of higher education for a cross-border supply of skilled

workers. Learning with technology means that more learning is happening outside the formal classroom and issues of equal access, equity and ethics call for attention (section 3.4.2). Through institutional partnerships and the sharing of good practices (section 3.4.3), institutions can collaborate in cross-institutional projects to promote collective academic values. With a change in curricula, sustainability development (section 3.4.4) in higher education, has the potential to promote both private and public good, as students obtain educational benefits that extend beyond their own development.

- **A meso-level perspective**

With the pace of technological development, institutional managers are forced to rethink their academic designs (section 3.5). It is evident that the biggest challenges for educational institutions are not technological; academic culture should change and these changes must be managed (section 3.5). From a meso-level perspective, institutions of higher education have diverse responsibilities to fulfil. As academic support functions, tutor training, development, support and evaluation (section 3.5.1; section 3.3) cannot be ignored. It is essential for meeting current and future challenges in technological teaching-learning. Besides academic support functions, institutional management need to provide and strengthen student support services to enable informed career decisions for 21st century careers (section 3.5.2). The Department of Higher Education and Training (2015:9) and the Council on Higher Education (2014:45) admitted that students in South Africa were poorly prepared for higher education, which calls for appropriate levels of career advice and counselling. Students that learn in technology assisted environments receive better emotional and social support when compared to traditional environments. However, the greatest concerns for institutions are related to quality assurance (section 3.5.3), their public standing, and how they are perceived and benchmarked.

In South Africa, much has been achieved after two decades of democracy, particularly in establishing quality and advisory bodies. Yet, it is evident that higher education in sub-Saharan Africa is facing a crisis as quality learning is declining, student retention is low, and graduates are poorly equipped. Clear specification, evaluation, and evidence of learning and learning outcomes offer multiple advantages (section 3.5.4) that are rarely utilised by either traditional or technological learning platforms (Deardorff, 2016:83; Van Tonder, 2015:37). One advantage of having access to students' electronic learning platforms, is the opportunity to assess students' learning with possibilities of immediate remedial actions. Although much focus has been placed on the development and support of staff (section 3.5.5) in successful

technological learning environments, administrative and academic staff are not always convinced of the benefits technology offers, and it can be challenging to introduce new skillsets.

- **A micro-level perspective**

From the literature studied, it is clear that the benefits of blended learning approaches are outperforming pure online or traditional learning approaches (section 3.6). From a micro-level perspective, instructional design and development (section 3.6.1) should be considered according to a 21st century workforce. Curriculum designers have an important responsibility to ensure cohesion between graduateness and employability. A key element in teaching-learning with technology is social collaboration (section 3.6.2), where learning is less structured and more shared. In learning communities, tutor presence is seen as an important element in setting a positive climate for interaction. How tutors and students prefer to receive information is determined by their teaching-learning styles (section 3.6.3), and both tutors and curriculum designers have to design learning experiences to include a variety of approaches beneficial in the workplace and society.

6.3.1.4 21st century employability development

In section 3.7, the literature study revealed that blended learning is seen as the best of both worlds, as some employability skills defy face-to-face instruction and online learning when exclusively followed. The development of a 21st century skills agenda (section 3.8 – 3.8.1, 3.8.2, 3.8.3, 3.8.4, 3.8.5, 3.8.6) and a 21st century skills framework (table 3.1) displayed the skills graduates need to enhance deeper learning that can be transferred to the workplace. The achievement of graduateness and employability (section 3.9) revealed that higher education, employers and graduates (section 3.9.1) are divided about whose responsibility the development of graduateness and employability is. The challenges unemployment forces on graduates (sections 3.9.2) were evident from the various influencing factors presented.

6.3.2 Conclusions from the empirical study

The three main themes that appeared in the empirical study (table 5.1) were (a) 21st century teaching and learning, (b) strengthening student graduateness, and (c) institutional guidance and support.

6.3.2.1 21st century teaching and learning

The data from the qualitative questionnaires conducted with tutors and institutional managers and the interviews conducted with graduates and students confirmed that new methods and ways to enhance student employability in higher education include the integration of technology (see table 5.1). The role technology plays in everyday life, both in and outside formal practices of work and study and including the amount of time spent with technology per day, highlighted the undeniable and distinct advantages of technology in both developed and developing economies (section 5.4.1.1). Student and graduate participants' decisions to enrol for studies where technology is used were influenced by considerations of convenience, modernity, and versatility, and the need to work and study at the same time. Compared to American participants where technology is not optional in learning, South African students and graduates intentionally looked for alternative learning opportunities.

For management members and tutors, the use of technology in learning emerged as more flexible with multiple means of access to learning content, improved student engagement and interaction, a closer link to the workplace, more open-minded learning, attractive to more learning styles, more convenient to grade, it provides a competitive advantage, and is driven by stakeholder demands. It is evident that both technology and face-to-face learning have their place in higher education. For graduates and students, technology learning is challenging when compared to the intimacy of face-to-face learning, as this mode is more direct and personal, and a tutor is physically available when clarification and explanation of difficult concepts are needed (section 5.4.1.2). Participants considered blended learning (section 5.4.1.3) as the best of both worlds and more successful than either exclusively online or face-to-face delivery. Students are more responsible for their own learning and learning is more individualised. The convenience of the fully online mode is significant for students who have to travel or work in different geographical areas, making it hard to always attend classes. The experiences and expectations of participants (section 5.4.1.4) revealed the added value technology offers. For managers and tutors, technology involves more than just communicating knowledge. Richer learning experiences and the practical application of learned knowledge transpire through collaborating and communicating with others.

If all online resources are adequately applied, learning can be reinforced in many ways. Using an online learning platform revealed that quality assurance of teaching-learning content (section 5.4.1.4(a)) includes remedial action when tutors access students' online submissions,

and additional resources can be shared. For students, it provides opportunities to prepare lessons prior to attending classes. Graduates and students remarked on the ease of online navigation, well summarised and more interesting content, and online assistance. However, negative considerations such as the inconsistency of tutors, dubious quality of online materials, out of date information, links that do not work, sub-standard videos, and the use of e-books were also mentioned.

Online collaboration and interaction (section 5.4.1.4(b)) with a strong tutor presence are viewed as helpful when everyone is participating. Although two methods of interrogation yielded the same response by tutors and mangers: students were reluctant to participate in discussions, postponed replying, contributors were always the same people, reading online posts was time consuming, and suggestions for another discussion tool was expressed. It is evident that American graduates and students viewed discussion boards as forced and generic, with limited interaction; they preferred a different method of interaction. South African graduate and student participants interact on a more personal level using social media platforms.

In terms of institutional administration (section 5.4.1.4(c)), it was evident that participants on both research sites experienced limited long-term, administration-related difficulties, and most matters related to unfamiliarity at the start of a programme. The empirical evidence showed that technical and student support (section 5.4.1.4(d)) were generally viewed in a positive light with acceptable turnaround times. It was further evident that tutor suitability and training (section 5.4.1.4(e)) have a direct impact on the success of technology learning, and the medium requires a different set of skills and a new mindset, especially for tutors who had been conditioned to work in a specific way. Concerns on both research sites were expressed over the suitability of online tutors. The challenges (section 5.4.1.4(f)) participants experienced across the four cases were compared in Table 5.2, and indicated that the most challenging issues for all participants were technological. Many similar and contrasting challenges and needs were revealed.

It became evident that the way tutors prefer to deliver, and students prefer to receive, process and retain information depends on their teaching and learning styles (section 5.4.1.5), and learning with technology showed a positive correlation between teaching-learning style, knowledge retention, and learning experiences. However, participants on both research sites agreed that changing from pure face-to-face to a blended learning approach challenged their previous knowledge and experiences in many ways (section 5.4.1.6).

6.3.2.2 Strengthening student graduateness

The qualitative questionnaires of management members and tutors, and interviews with graduates and students conclusively demonstrated that performance indicators are necessary to assist students with the skills sets required for 21st century employability (section 5.4.2.1) and the labour market. Graduates and students want to know and understand how meaningful their learning is in relation to workforce demands (section 5.4.2.1(a)), and what career-focused skills are required for employment (section 5.4.2.1(b); table 5.2; table 5.3; table 5.4). Participant feedback further demonstrated that employability curricula (section 5.4.2.1(c)) must be aligned with workplace requirements, and authentic learning with real-life experiences should be provided. Participants expected the inclusion of skills development and adjustment of curricula to link graduate qualifications to employability (section 5.4.2.2), and to receive instruction that is relatable and relevant to work, life and society. The integration of technology to advance employability development (section 5.4.2.3) is seen as an acceptable application of technology to enhance skills development when it is combined with face-to-face learning.

6.3.2.3 Institutional guidance and support

The data from the qualitative questionnaires and interviews conducted with participants confirms that institutional guidance and support (section 5.4.3) for career planning and finding employment, reflects positively on the achievements of both institutions and graduates. Supporting students in making career decisions (section 5.4.3.1) is perceived as an important objective for institutions to maintain academic and institutional success. Participant feedback revealed that the setting of educational goals (section 5.4.3.1(a)) through career advice services and career assessments (section 5.4.3.1. (b)) deepens the knowledge students have of the labour market when they collaborate and network with student advisors for guidance. The provision of services for the development of student graduateness was noticeable on both research sites. However, on the American research site, self-paced online programmes offered a more innovative alternative. Career-ready endorsement (section 5.4.3.1(c)) programmes offer possibilities to obtain a professional skills certificate with the benefits of priority interviewing opportunities with employers linked to the institution. It was evident from participant views that helping students find employment (section 5.4.3.2) is seen as an institution-wide mission. Although no formal career development services were reported on the South African site, tutors fulfil that role. Career development advisors (section 5.4.3.2(a)) on the American research site link students with potential employers, and career development is a subject included in the

formal curricula. It was further evident that students expected their faculties (section 5.4.3.2(b)) to be included in the process and to be knowledgeable about employment development. Student placement and mentorship programmes (section 5.4.3.2(c)) expose students to real-life experience, which is a prerequisite for obtaining a qualification on the South African research site. Partnership opportunities through employer collaboration (section 5.4.3.2(d)) was evident on both research sites. Both sites included career networking (section 5.4.3.2(d)(i)), employer advisory boards (section 5.4.3.2(d)(ii)), and job fairs (section 5.4.3.2(d)(iii)) to promote student graduateness. On the South African site, volunteering (section 5.4.3.2(d)(iv)) without financial benefits was mentioned as an option to gain entry into the workplace.

6.4 RECOMMENDATIONS

The following recommendations were derived from the research findings and the experiences, expectations and views from institutional managers, tutors, graduates and students reported in this study.

6.4.1 Expanding higher education opportunities

The development of 21st century skills and enhancing employability has emerged as an urgent priority on educational and political agendas across the world (CBI, 2015:6; Makoni, 2014:1; Asonitou, 2014:283). As discussed in section 1.1, more innovative, flexible and creative opportunities are required to advance employability development and 21st century skills, especially with the integration of technology in learning (section 2.1). As it is evident that government-led actions in countries drive change (section 3.4), the researcher recommends an urgent appeal to the Department of Higher Education and Training in South Africa to intensify consultative processes on the implementation of blended learning with embedded employability skills for higher education in South Africa to solve graduate unemployment. Focus should be on:

- Rethinking pedagogical approaches to better align with 21st century expectations.
- Reshaping programmes that have become obsolete with no employability prospects.
- Improving the quality of programmes, with broader learning experiences and innovative programmes for the enhancement of employability.
- Conducting more research on graduate perspectives to enhance the vision of relevant stakeholders.

- Transforming and reshaping higher education management and governance to adequately respond to the changing demands.
- Promoting the fitness for purpose and survival of educational managements to include more flexible and innovative management approaches (section 3.2.1).
- Using technology to enhance economic advancement and skills development.
- Using technology to accommodate large student numbers and enhance skills development.
- Recognising that global inclusivity is good for economic development.
- Reinventing higher education for a cross-border supply of skilled workforce.
- Establishing institutional partnerships and sharing good practices (section 3.4.3) where institutions can collaborate in cross-institutional and cross-border projects to promote collective academic values, and pursue a particular set of skills.
- Developing a national blended learning and quality management policy when using technology in education.
- Transforming the teaching profession (section 2.7.2.2; section 3.3) to fulfil the needs of students.
- Encouraging sustainability development (section 3.4.4) in higher education with a change in curricula to produce graduates for both private and public good beyond educational benefits.

The findings in this study resulted in further recommendations for expanding higher education opportunities to address problems in the following ways:

- Building more higher education institutions in South Africa to accommodate the proposed 1,6 million higher education students by 2030 (South Africa. Council on Higher Education, 2016:23) as discussed in section 3.4, compared to 21st century teaching-learning (section 2.8.2).
- Access to quality technology learning with the necessary infrastructure to provide learning at home away from a physical classroom, in remote areas and across geographical barriers (section 3.6).
- The high number of unemployed youth that are neither studying nor working (section 3.2.2.2) could be effectively accommodated via technology learning.
- E-books could overcome the costs of printing textbooks and occasional problems with availability (section 3.7).

- A centralised, consolidated blended learning model is recommended to ensure access, ethics and social equity (section 3.4.2; section 5.6.1.2).
- It is evident that students in blended environments outperform their peers in either purely online, or pure face-to-face instruction, as discussed in sections 3.6 and 5.4.1.3.
- Costs of data and airtime should be reconsidered for students residing in remote areas with no wireless connection.

6.4.2 Institutional governance and management

If institutions want to remain relevant and keep up with the pace of change in 21st century teaching-learning, it is almost impossible for higher education institutions to exclude new technologies, diverse classrooms, and the changing nature of work as discussed in section 2.3.2.2. With the growing pace of technological learning globally, higher education institutions must be open and receptive to better options and possibilities for improving 21st century graduateness (section 1.6). The researcher's recommendations follow below.

6.4.2.1 21st century employability skills agenda

Re-evaluate academic designs to be more business-like and customer-centred (Lee, 2014:18) as discussed in section 5.6.2 and section 3.5. It is evident from this study that an employability curriculum (section 5.4.2.1(c)) must be aligned with workplace requirements. The inclusion of skills development and adjustment of curricula to link graduate qualifications to employability (section 5.4.2.2) is recommended. The researcher further recommends the inclusion of credit-bearing skills development modules in the formal curricula, as discussed in sections 3.8, 3.8.1, 3.8.2, and Table 3.1. These modules could be included on an electronic learning platform, as discussed in section 5.4.3.1(c).

6.4.2.2 Competitive advantage

The governing bodies of many educational institutions consist mainly of academics who are experts in their respective environments. However, management members with business acumen (section 3.5) may be better suited to form partnerships and arrange commercial contracts, which will affect institutional sustainability in 21st century teaching-learning environments (Korka, 2016:95). Furthermore, when higher education operates in a business environment, it should encourage quality assurance to gain a competitive advantage. In return, it could offer the benefits of "product leadership, operational excellence and customer

confidence" (Treacy & Wiersema as cited in Korka, 2016:92). This could be accommodated in the higher education sector as discussed in section 5.6.2.

6.4.2.3 Tutor development

It is evident that tutor suitability and training, as discussed in section 5.4.1.4(e)), has a direct impact on the success of technology learning, and a different skills set and mindset is required to teach with technology. The researcher recommends the provision of academic support services for tutors through training, development, and evaluation (sections 3.5.1 and 3.3) to meet student needs. Further recommendations are to incorporate new teaching methods, to provide training for higher order skills, and to increase tutor productivity. Hours normally spent on manual grading and testing activities can be significantly cut by computerising these processes (section 5.4.1.4(c)). This would leave more time for tutors to improve their technological skills and focus on the knowledge and skills to be instilled in their students (World Economic Forum, 2015:8) (section 1.3).

6.4.2.4 Student support services

Institutional management has the obligation to provide and strengthen student support services as discussed in section 5.4.1.4(d). Having online administrative, technical and student support helps to facilitate the advancement of 21st century teaching and learning (Sogunro, 2015:32; Van Tonder, 2015:120). One important aspect is to expose students to technological platforms before their courses begin, to eliminate uncertainty, particularly with a transition from face-to-face delivery, and to have assistance available during their orientation phase (section 5.4.1.4(c)). This in turn, combined with other student support services mentioned in section 6.4.3, are vital to sustain academic success and motivation.

6.4.2.5 Quality assurance

The success of higher education institutions is largely dependent on their reputations, as quality and prestige often go together (British Council, 2015:11). Institutional quality assurance systems are often driven by self-improvement and accountability systems as discussed in section 3.5.3. Participants' use of online learning platforms revealed that quality assurance of teaching-learning content (section 5.4.1.4(a)) includes remedial action when tutors access students' online submissions, and additional resources can be shared. However, the data from the questionnaires and interviews showed that factors such as inconsistency of tutors, the quality of online materials, out of date information, links that do not work, sub-standard video

material, and the use of e-books were challenges, as discussed in section 5.4.1.4(a). The researcher recommends a re-evaluation of institutions' definitions of "fitness for purpose".

6.4.2.6 Evaluation of learning and programme outcomes

The various assessment methods that are available on the technological learning platform, as discussed in section 3.5.4, provide valuable feedback with far more sophisticated and advanced learning analytics than is possible in the traditional classroom. Yet, students do not always understand how meaningful their learning is in relation to employment (section 5.4.2.1(a)), and a pass or fail grade does not necessarily measure learning and progress. With employers constantly expressing concern over graduates' lack of employability skills (section 3.4), the researcher recommends explicit statements and evidence of learning outcomes to assist future employers with a better understanding of the skills and competencies graduates have achieved (section 5.4.3.1(c)).

6.4.2.7 Online discussion boards

Social collaboration is an important part of teaching-learning with technology, with learning being less structured and more shared (section 3.6.2). In learning communities, tutor presence is seen as an important element in setting a positive climate for interaction. Participants in this study revealed students' reluctance to participate and their delayed responses to online posts (section 5.4.1.4(b)). Clearly, students prefer a more personal alternative to a discussion board. The researcher recommends a discussion board similar to modern social media platforms, where participants get push notifications when new content is posted, without first having to log on and search for posts. Additionally, the researcher recommends discussions to be more personal, innovative and diverse.

6.4.3 Career guidance and support

A call for more appropriate levels of career advice and counselling on the South African research site was evident from the literature studied (section 3.8.3; section 3.8.4; section 3.85 and section 3.8.6) and the empirical investigation (sections 5.4.3, 5.4.3.1 and 5.4.3.2). The following are recommendations for the enhancement of student graduateness in South African higher education:

- Establish career guidance services to assist students with setting career goals.

- Appoint student advisors to assist students with career planning, employer collaboration, and networking possibilities.
- Implement career-ready endorsement programmes as discussed in section 5.4.3.1(c).
- Expose students to real-life experiences through student placements and mentorships as discussed in section 5.4.3.2(c).
- Volunteer work has the benefit of gaining entry level exposure with possibilities of employment (section 5.4.3.2(d)(iv)).

6.5 RECOMMENDATIONS FOR FUTHER STUDY

- A feasibility study to measure learning outcomes in blended environments.
- A feasibility study to measure the effectiveness of blended learning environments in South African higher education.
- More future research on blended learning with embedded employability skills; a quantitative study is recommended to include quantitative data collection methods to support this qualitative exploratory research.
- Research on the quality of teaching and teaching methods when using technology to teach.
- Based on the absence of a framework and policy guidelines for the use of blended learning with embedded employability skills in higher education, the researcher recommends a study aimed at developing policy and procedures, with the focus on blended learning.
- A study on a national skills development programme for higher education.
- Most research relies on employer perceptions and little is known about the knowledge, skills, and values graduates actually possess, and the impact of those on employability outcomes.
- Research and exploration are needed to determine administrative staff support and training in blended learning environments.
- An investigation and report on the quality of career advice services towards student graduateness in higher education.
- Research on how particular curricula and programmes feed into the labour market.
- The development of a performance measurement model should be investigated to measure students' work placement possibilities, employer engagement, specific skills development, the focus on employment needs, and graduate employment rates.

6.6 LIMITATIONS OF THE STUDY

The limitations of the study include the following:

- The viewpoints of institutional managers, tutors, graduates, and students in two different countries and on two different research sites were presented, and this was tied to managing the quality of employability development in higher education through blended learning were presented. As such, only their viewpoints were included, which cannot be generalised or applied to other countries or institutions not included in this study. Different countries with different circumstances may very well present very different outcomes.
- Due to limited data on the implementation and facilitation of employability development initiatives in higher education (section 1.1), and with blended learning being a relatively new learning approach, an exploratory study was implemented to learn from participants' views, experiences and expectations. However, as blended learning continues to develop and expand, it will yield more data and results, and different outcomes may be achieved.

6.7 CONCLUSION

The aim of this study was to explore the views of participants on managing the quality of employability development in higher education through blended learning. Qualitative questionnaires, individual interviews and e-mail interviews were employed as part of a qualitative research design and methodology, and this allowed the researcher to explore and compare the views, experiences and expectations of forty-three participants on two research sites with each using a different blended learning approach. The research study adhered strictly to ethical principles and was evaluated for trustworthiness.

This study confirmed that adult teaching-learning is influenced by the world we live in and that globalisation, technology and the knowledge economy influence how adults prefer to participate in learning. Based on the findings, it is clear that 21st century teaching-learning is almost impossible without the integration of technology in the classroom, allowing adult students to take control of their own learning. From this study it is evident that 21st century teaching and learning requires a rapid transition to new methods and ways to enhance student employability through technology integration. The findings from the empirical investigation largely concurred with the literature study: interaction with technology led to meaningful and significant learning. The study further revealed that performance indicators are needed to assist students with skills sets demanded by the labour market. Curricula should be modified to

include employability skills to ensure that students graduate with these already integrated into their qualifications. Innovative ways to develop professional skills through self-paced online courses that form part of the learning material will enhance employability.

The availability of guidance and support services for career planning, setting of educational goals, and the availability of career advisors are perceived as important objectives for employability development. Student placement and mentorship programmes expose students to real-life experience. Through employer collaboration and career networking, institutions form partnership opportunities to facilitate student graduateness.

These findings led to a model for supporting employability development in blended learning environments. The model required collaboration on macro, meso, and micro-level. Recommendations for further research beyond the limitations of this study were presented.

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APPENDICES

APPENDIX A: REGISTRATION LETTER

UNISA university of south africa

1054 MIRST

VAN TONDER S MS
[redacted]

STUDENT NUMBER : 4853-345-9

ENQUIRIES NAME : POSTGRADUATE QUALIFICATIONS
ENQUIRIES TEL : (012) 441-5702

DATE : 2018-04-10

Dear Student

I wish to inform you that your registration has been accepted for the academic year indicated below. Kindly activate your Unisa mylife (https://myunisa.ac.za/portal) account for future communication purposes and access to research resources. Please check the information below and kindly inform the Master's and doctoral section on manddf@unisa.ac.za on any omissions or errors.

DEGREE :	DED	(90038)
TITLE :	Managing quality employability development of students in higher education through blended learning: A comparative study between South Africa and the United States	
SUPERVISOR :	Prof GM STEYN	
ACADEMIC YEAR :	2018	
TYPE:	THESIS	
SUBJECTS REGISTERED:	TFEDM01 DEd - Education (Education Management)	

A statement of account will be sent to you shortly.

If you intend submitting your dissertation/thesis for examination, complete form DSAR20 (Notice of Intention to Submit) before 30 September. If this deadline is not met, you need to re-register and submit your intention for submission by 15 April and submit your dissertation by 15 June.

Your supervisor's written consent for submission must accompany your notice of intention to submit.

Yours faithfully,

Prof QM Temane
Registrar (Acting)

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

APPENDIX B: UNISA ETHICAL CLEARANCE

UNISA university of south africa

UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2018/06/13

Ref: 2018/06/13/48533459/12/MC
Name: Ms S van Tonder
Student: 48533459

Dear Ms van Tonder

Decision: Ethics Approval from 2018/06/13 to 2023/06/13

Researcher(s): Name: Ms S van Tonder
E-mail address: 48533459@mylife.unisa.ac.za
Telephone: +27 76 882 5270

Supervisor(s): Name: Prof GM Steyn
E-mail address: steyngm1@unisa.ac.za
Telephone: +27 82 886 7468

Title of research:

Managing the quality of employability development in Higher Education through blended learning: A comparative study

Qualification: D. Ed in Educational Leadership and Management

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2018/06/13 to 2023/06/13.

*The **low risk** application was reviewed by the Ethics Review Committee on 2018/06/13 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the

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2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
7. No field work activities may continue after the expiry date **2023/06/13**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

The reference number **2018/06/13/48533459/12/MC** *should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Kind regards,

Dr M Claassens
CHAIRPERSON: CEDU RERC
mcdtc@netactive.co.za

Prof V McKay
EXECUTIVE DEAN
Mckayvi@unisa.ac.za

University of South Africa
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APPENDIX C: INVITATION AND REQUEST PERMISSION TO CONDUCT RESEARCH

UNISA university of south africa

REQUESTING PERMISSION TO CONCUCT RESEARCH AT [redacted]

TITLE OF THE RESEARCH: MANAGING THE QUALITY OF EMPLOYABILITY DEVELOPMENT IN HIGHER EDUCATION THROUGH BLENDED LEARNING: A COMPARATIVE STUDY

17 July 2018

[redacted]
E-mail: [redacted]
Tel: [redacted]

Dear [redacted]

I, Silna Van Tonder am doing research under supervision of Prof. G.M. Steyn a Professor in the Department of Educational Leadership and Management towards a DEd at the University of South Africa (UNISA). The study has been approved by University South Africa Research Ethics Committee of the College of Education and, as part of that approval process, we are required to obtain gatekeeper permission from sites where we recruit participants. We have funding from the University of South Africa Student Funding for conducting this research.

We are inviting you to participate in a study entitled "*Managing The Quality Of Employability Development In Higher Education Through Blended Learning: A Comparative Study*".

The aim of the study is to provide scientific evidence based on an empirical study on how the quality of employability development in higher education, using blended learning should be managed to prepare students through inclusive development for a diverse world of work, with specific objectives to determine:

- The experiences and expectations of students, graduates, tutors and institutional management using blended learning, and
- What aspects of using blended learning influence the development of employability skills?

[redacted] has been selected because it offers blended learning programmes across study fields for registered students. Participation in this study will be voluntary and identification of both participants and institution will be withheld and will not be identifiable at any stage of the study.

The identification and possible assistance of a gatekeeper is required to obtain access to five graduates who completed their studies, five students working part-time, five tutors, and five management members involved with blended learning. I have prepared a participant consent form and what is involved in it for potential participants. Ideally, I would like to begin data collection in July 2018, but I am willing to be guided by you on this.

The study will entail a qualitative research methodology using a multiple case study because it allows for the collective investigation of the way participants account for and put together the significance of

their experiences related to the use of blended learning in higher education towards employability development of students. The data collection methods will involve, semi-structured interviews with five graduates and five students, and qualitative questionnaires with five tutors and five management members. This will be follow-up with e-mail communication (if necessary).

The benefit of this study is that its findings will assist with growth enabling policies in higher education to address employability development and 21st century skills of students when using blended learning and might assist [redacted] with its progress, quality assurance and sustainability when technology is used in learning.

The study has no potential risk except for inconvenience of participants' time and there will be no reimbursement or any incentives for participation in the research.

Participating in this study is voluntary and you are under no obligation to participate. You are free to withdraw at any time and without giving a reason. Your identity will not be revealed or recorded anywhere, and no one, apart from the researcher and gatekeeper, will know about your involvement in this research. All answers and information shared with the researcher will be given a code number and you will be referred to in this way in the data, publications, or other research reporting methods such as conference proceedings (this measure refers to confidentiality).

Feedback to all participants will be made available through a summary report of the major findings. I hope that you find the attached project of interest and will be interested in assisting me on it. Please feel free to contact me if you have any queries. Alternatively, you may wish to contact my supervisor, Prof. G.M. (Trudie) Steyn, at the Department of Education Management and Leadership, College of Education, UNISA, Tel: +27(0)12 664 4256 or [redacted] or e-mail at Steyngm1@unisa.ac.za if you would like a reference or other information.

Yours sincerely

MS. SILNA VAN TONDER
UNISA DEd RESEARCH STUDENT
STUDENT NUMBER: 48533459

Mobile: +27 [redacted]
Tel: +27 [redacted]
E-mail: 48533459@mylife.unisa.ac.za

APPENDIX D: PERMISSION LETTER SOUTH AFRICAN INSTITUTION

[redacted]

Date: 31 July 2018
To: Ms. Silna van Tonder
48533459@mylife.unisa.ac.za / silna@[redacted]co.za
Tel: +27[redacted] / +27[redacted]

Dear Ms. Silna van Tonder

PERMISSION TO CONCUCT RESEARCH AT[redacted]

TITLE OF THE RESEARCH: MANAGING THE QUALITY OF EMPLOYABILITY DEVELOPMENT IN HIGHER EDUCATION THROUGH BLENDED LEARNING: A COMPARATIVE STUDY

Your application for the referenced study has been reviewed and accepted. The study will employ semi-structured interviews and qualitative questionnaires with volunteer adult human participants at [redacted]. You may proceed with your research based on the following:

1. Information will be kept confidential and participants will not be personally identified in the final study report.
2. Approval of this research does not convey consent to publish findings that identify [redacted] (or its students, graduates or staff members) as a study participant.
3. Neither the management members of staff, nor tutors and graduates of [redacted] are obligated to participate or assist in your study.
4. The research be limited to the period requested.
5. The study does not interfere or interrupt the official teaching and learning programmes.
6. Your study be limited to the specified participants proposed.
7. [redacted] request that a copy of the final report and analysis, be submitted on completion.

Should you need any further information or clarification of the above please do not hesitate to enquire.

Yours faithfully
[redacted]
Cole Coordinator
[redacted]

[redacted]

[redacted]

APPENDIX E: PERMISSION LETTER AMERICAN INSTITUTION

Notice of IRB Determination

[redacted]

Institutional Review Board

Study Title: Managing the Quality of Employability Development in Higher Education through Blended Learning: A comparative study
Protocol Number: 18021
Principle Investigator: Silna Van Tonder
IRB Reviewer: [redacted]
Date of Correspondence: June 22, 2018
Type of Review:
☒ Initial Review
☐ Requested Re-review
☐ Other
IRB Determination:
☒ Exempt
- ☐ Does not qualify as research under 45 CFR §46.102(d)
- ☐ Meets Exempt category under 45 CFR §46.101(b)
  - ☐ Category 1: Research conducted in established or commonly accepted educational settings involving normal educational practices
  - ☒ Category 2: Research involving the use of educational tests, survey procedures, interview procedures or observation of public behavior
  - ☐ Category 3: Research involving the use of educational tests, survey procedures, interview procedures, or observation of public behavior not exempt under Category 2 but involving public officials or candidates for public office, or federal statute requires confidentiality
  - ☐ Category 4: Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens
  - ☐ Category 5: Research or demonstration projects designed to examine public benefit or service programs; procedures for obtaining benefits or services; possible changes in or alternatives to programs or procedures; possible changes in methods or levels of payment
  - ☐ Category 6: Taste and food quality evaluation and consumer acceptance studies

☐ Expedited Review
☐ Full Review
IRB Review Result
☐ Approved
☐ Denied
☒ Not applicable (exempt)

Review Notes

Your application for the referenced study Protocol Number 18021 has been reviewed and determined to be **Exempt** under 45 CFR §46.101(b). The study will utilize semi-structured interviews and qualitative questionnaires with volunteer adult human subjects. Information will be kept confidential and participants will not be personally identified in the final study report.

Please make note of the following:

- Please note that IRB approval does not obligate faculty to participate in your study. If you have not done so already, you will need to secure the cooperation of campus leadership by contacting the Vice Chancellor of Academic Affairs **of each involved campus**. Once you have that authorization, you may proceed with the project as described in your research application.
- This notification should be retained for your records.
- If the protocol changes in a way such that the basis for exemption or approval is no longer accurate, and may no longer conform to the criteria for exemption or approval, a new Initial Review application will need to be submitted. Investigators should contact the IRB office via email prior to making changes in order to confirm that the status will not be affected.
- Exempting an activity from review does not absolve the investigator(s) from ensuring that the rights and welfare of subjects in the activity is protected and that methods used and information provided to gain subject consent are appropriate to the activity.
- Investigators of exempt research are expected to be guided by the ethical principles for all research involving humans as subjects, set forth in the report of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (the "Belmont Report"). For a copy of the Belmont Report, see http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.htm.
- Approval of this research does not convey authorization to publish findings that identify [redacted] (or its students, faculty or staff) as a study participant. As with all research projects conducted among [redacted] students, faculty or staff, we also request that [redacted] receive a copy of the final report and analysis, for internal use.

Please contact Molly [redacted] at [redacted].edu with any questions.

Signature of IRB Reviewer:

[redacted]
IRB Representative

APPENDIX F: INVITATION TO PARTICIPATE AND CONSENT LETTER

17 July 2018

TITLE: MANAGING THE QUALITY OF EMPLOYABILITY DEVELOPMENT IN HIGHER EDUCATION THROUGH BLENDED LEARNING: A COMPARATIVE STUDY

DEAR PROSPECTIVE PARTICIPANT

My name is Silna Van Tonder and I am doing research under the supervision of Prof. G.M. Steyn, a Professor in the Department of Educational Leadership and Management towards a DEd at the University of South Africa. We have funding from the University of South Africa Student Funding for conducting this research. We are inviting you to participate in a study entitled:

"Managing The Quality Of Employability Development In Higher Education Through blended learning: A Comparative Study".

WHAT IS THE PURPOSE OF THE STUDY?

This study is expected to provide scientific evidence based on how higher education institutions using blended learning should be managed to improve the quality of employability development for their students.

WHY AM I BEING INVITED TO PARTICIPATE?

You are invited because of your valuable insight and experience in using technology in higher education for learning.
I obtained your contact details from [redacted], who also serves as a gatekeeper between you and me.
(The Protection of Personal Information Act, no 4 of 2013, necessitates the disclosure of how access was gained to the personal information of prospective participants). **5** Graduates, **5** Students working or studying part-time, **5** Tutors and **5** Management members are expected to participate in this study.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?
GRADUATES/LEARNERS

As a graduate or learner with some work experience, you are invited to participate in a semi-structured individual interview via Skype, talking about your understandings, experiences and views when you used/use technology to study. These interviews will be electronically (audio taped) recorded for verification of the findings, verbatim transcribed and analysed by me. Interviews will be conducted according to your schedule and availability and is expected to take between around 20-30 minutes. The principal aim is to investigate the role of technology learning to promote 21st century skills and graduate employability. The interview questions will focus on technology learning, your views on employability development and the institutional assistance you receive towards employability development. Before the interview is scheduled, a list of the planned questions will be forwarded to you via e-mail to reflect on. If necessary, and should more information be needed after the interview, follow-up questions will be communicated via e-mail.

TUTORS/INSTITUTIONAL MANAGEMENT

As a tutors or management member you are invited to participate in a qualitative questionnaire with open-ended questions which will be e-mailed to you, asking about your understandings, experiences and views when technology is used to study, your views on employability development and the institutional assistance given towards employability development. The motivation for this selection is your insight, factual knowledge, experiences, understanding of technology learning, employability skills, the importance of curricula to include employability skills, self-interest, preferences, alternatives to learning and your values and judgments on the use of technology learning to enhance graduate employability.

Acknowledging your time constraints and other responsibilities the qualitative questionnaire is expected to take about 30 minutes. The questionnaire will be e-mailed in plain text which enables you to reply next to each question and send back. Data will be organised and prepared for analysis by myself. If necessary, and should more information be needed after the questionnaire, follow-up questions will be communicated via e-mail.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign the written consent form which is referred to as the RETURN SLIP at the end of this form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

Your precious knowledge on the use of technology in higher education will be beneficial to this study as you can provide vital inside information that will allow for the creation of an effective transformative framework for future technology development at your institution and will also provide Departments of Higher Education with qualitative data that will contribute to efforts made towards technology integration in higher education and training.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

No negative consequences or risks are foreseen for you participating in this research besides that of inconvenience. Your participation is based on your experiences, understandings and views of using technology in learning towards the advancement of 21st century skills and graduate employability. Hence, the anticipated risks or negative consequences from your participation are low.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

You have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and gatekeeper, will know about your involvement in this research (this measure refers to confidentiality) OR your name will not be recorded anywhere and no one will be able to connect you to the answers you give (this measure refers to anonymity). Your answers will be given a code number and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings (this measure refers to confidentiality).

Your answers may be reviewed by people responsible for making sure that research is done properly, including the research supervisor and members of the Research Ethics Review Committee. The final report on this data will be submitted as a thesis for my degree and may be used for other purposes, such as in journal articles and/or conference proceedings. In none of these publications will you be identified.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

There will be no hard copies of your answers available as all data collections are in an electronic format which will be stored by the researcher for a period of five years on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. After five years electronic copies will be permanently deleted from the computer hard drive using a relevant software programme.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

You will not receive any payment or reward for participating in this study.

HAS THE STUDY RECEIVED ETHICS APPROVAL

This study has received written approval from the Research Ethics Review Committee of the College of Education, UNISA. A copy of the approval letter/certificate can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact Silna Van Tonder on +27[redacted] or +27[redacted] or email 48533459@mylife.unisa.ac.za. The findings are accessible for one year. Should you require any further information or want to contact the researcher about any aspect of this study, please contact Silna Van Tonder on +27([redacted] or +27[redacted] or email 48533459@mylife.unisa.ac.za. Should you have concerns about the way in which the research has been conducted, you may contact Prof. G.M. Steyn. Tel: +27(0)12 664 4256 or +27[redacted] or e-mail at Steyngm1@unisa.ac.za.

Thank you for taking time to read this information sheet and for participating in this study.

Much appreciated.

SILNA VAN TONDER

P.S.: PLEASE COMPLETE AND RETURN THE CONCENT RETURN SLIP BELOW

CONSENT TO PARTICIPATE IN THIS STUDY (Return slip)

I, **(Participant Name)**, _____

confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the:

	Please mark with X		
Graduates/Students: Semi-structured interview		**Tutors/Management:** Qualitative questionnaire	

I have received a signed copy of the informed consent agreement.

Participant Name & Surname (please print): _____

_____ _____

Participant signature Date

Researcher's Name & Surname (please print): **Silna Van Tonder**

17 July 2018

Researcher's signature Date

APPENDIX G: CONSENT WITH SIGNED RETURN SLIP

CONSENT TO PARTICIPATE IN THIS STUDY (Return slip)

I, **(Participant Name),** [redacted]

confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the:	Please mark with X			
	Graduates/Students: Semi-structured interview	X	**Tutors/Management:** Qualitative questionnaire	X

I have received a signed copy of the informed consent agreement.

Participant Name & Surname (please print): [redacted]

Participant signature

20 | 07 | 2018
Date

Researcher's Name & Surname (please print): **Silna Van Tonder**

17 July 2018

Researcher's signature

Date

APPENDIX H: INTERVIEW SCHEDULE: GRADUATES

UNISA university of south africa

TECHNOLOGY LEARNING:

1. Besides your studies for what else do you use technology?
2. Why did you choose to enroll for studies using technology?
3. How much time did you spend on studies per day?
4. How often did you attend face to face classes?
5. What are your thoughts of using blended learning in higher education to learn?
6. How would you describe your learning style using technology in your studies? Please elaborate.
7. Tell me about your experiences using your learning platform.
   a) Quality of content/videos/ presentations/textbooks etc.
   b) Experiences when interacting with others (students/tutors)
   c) General administration issues
   d) Student support
   e) Challenges experienced to be appropriately equipped for using technology in HE?

EMPLOYABILITY SKILLS:

8. What do you think are reasons (if any), for graduate unemployment in the 21st century?
9. What skills do you think are needed to be employed?
10. What do you think employers expect from graduates when they start their careers?
11. Tell me how was your training and qualification linked (or not) to the real-world? Please elaborate.
12. Do you think learning with technology can contribute/enhance employability skills? Please elaborate.

INSTITUTIONAL ASSISTANCE:

13. How did you experience career guidance from your institution to make a career decision? Please elaborate.
14. If anything, what would you have liked to be included in your university training towards employability?
15. Who should be involved in assisting graduates to find employment? Please elaborate.

APPENDIX I: INTERVIEW SCHEDULE: STUDENTS

UNISA university of south africa

TECHNOLOGY LEARNING:

1. Besides your studies for what else do you use technology?
2. Why did you choose to enroll for studies using technology?
3. How much time do you spend on studies per day?
4. How often do you attend face to face classes?
5. What are your thoughts of using blended learning in higher education to learn?
6. How would you describe your learning style using technology in your studies? Please elaborate.
7. Tell me about your experiences using your learning platform.
   a) Quality of content/videos/ presentations/textbooks etc.
   b) Experiences when interacting with others (students/tutors)
   c) General administration issues
   d) Student support
   e) Challenges experienced to be appropriately equipped for using technology in HE

EMPLOYABILITY SKILLS:

8. What do you think are reasons (if any), for graduate unemployment in the 21st century?
9. What skills do you think are needed to be employed?
10. What do you think employers expect from graduates when they start their careers?
11. Tell me how is your training and qualification linked (or not) to the real-world? Please elaborate.
12. Do you think learning with technology can contribute/enhance employability skills? Please elaborate.

INSTITUTIONAL ASSISTANCE:

13. How do you experience career guidance from your institution to make a career decision? Please elaborate.
14. If anything, what would you have liked to be included in your university training towards employability?
15. Who should be involved in assisting graduates to find employment? Please elaborate.

APPENDIX J: QUALITATIVE QUESTIONNAIRE MANAGMENT MEMBERS

Dear Manager

Thank you for your time. Your valuable insight, experience, and understanding of blended learning will benefit the higher education sector with growth enabling policies to address graduate employability development when technology is used to learn. You are kindly requested to complete this questionnaire as honestly and frankly as possible and according to your personal views and/or experience.

****NOTE: The questionnaire can be electronically completed in the spaces provided below.**

A. TECHNOLOGY LEARNING:

1) What was your institutions' motivation for using technology in learning?

2) What are your thoughts on using technology in higher education to learn?

3) What skills should a prospective student have to study online?

4) What are your thoughts on blended learning?

5) How do you think *lecturers/tutors and students* view and experience an online learning platform.

	TUTORS	**STUDENTS**
General views on: **(Quality of content/videos/presentations/etc.**		
Using online discussion forums		
Administrative issues		
Student support		
Challenges		

B. EMPLOYABILITY SKILLS:

What do you think…

6) are the needs/expectations of students in the 21st century?

7) are the reasons (if any), for graduate unemployment in the 21st century?

8) are the skills students/graduates need to be employed?

9) are your current curricula closely linked to the real-world? Please elaborate.

10) employers expect from students/graduates when they start their careers?

11) can technology learning contribute/enhance employability skills? Please elaborate.

C. INSTITUTIONAL ASSISTANCE:

What are your views on…

12) offering career guidance to assist students/graduates when making career decisions?

13) changes in curricula to promote student/graduate employability?

14) ensuring suitability of online tutors?

15) who should be involved in assisting students/graduates to find employment?

Your participation in this study is greatly appreciated. Thank you.

Please e-mail your answers to me: 48533459@mylife.unisa.ac.za

APPENDIX K: QUALITATIVE QUESTIONNAIRE TUTORS

Dear Lecturer/Tutor,

Thank you for your time. Your valuable insight, experience, and understanding of blended learning will benefit the higher education sector with growth enabling policies to address graduate employability development when technology is used to learn. You are kindly requested to complete this questionnaire as honestly and frankly as possible and according to your personal views and/or experience related to your specific field of teaching.

1. **Your field of teaching:**
2. **Department:**

****NOTE: The questionnaire can be electronically completed in the spaces provided below.**

A. TECHNOLOGY LEARNING:

1) What are your thoughts on using technology in higher education to learn?

2) Is your teaching style different when you use technology to teach? Please elaborate.

3) What skills should a prospective student have to study online?

4) What are your thoughts on blended learning?

5) How do you think *lecturers/tutors and students* experience an online learning platform related to the following: (Please complete below)

	TUTORS	**STUDENTS**
General views on: **(Quality of content/videos/presentations/etc.)**		
Using online discussion forums		
Administrative issues		
Student support		
Challenges		

B. EMPLOYABILITY SKILLS:

What do you think…

6) are the needs/expectations of students in the 21st century?

7) are the reasons (if any), for graduate unemployment in the 21st century?

8) are the skills graduates need to be employed?

9) are your current curricula closely linked to the real-world? Please elaborate.

10) are employers' expectations from graduates when they start their careers?

11) can technology contribute/enhance employability skills? Please elaborate.

C. INSTITUTIONAL ASSISTANCE:

What are your views on…

12) career guidance to assist students in making career decision?

13) changes in curricula to promote student/graduate employability?

14) ensuring suitability of online tutors?

15) who should be involved in assisting students/graduates to find employment?

Your participation in this study is greatly appreciated. Thank you.

Please e-mail your answers to me: 48533459@mylife.unisa.ac.za

APPENDIX L: EMAIL COMMUNICATION

From: silna@ co.za>
Sent: Wednesday, August 1, 2018 7:31 AM
To: Tricia
Subject: RE: Management/Staff invitation/participation in research:

Good morning Tricia.

Tricia, based on your questionnaire answers, can I please ask you:

1. What is your take on blended learning in higher education?
2. How are the 'soft skills' you mentioned in Question 6 and 7 included in your students' curricula?

Hope to hear from you and thank you.
Best
Silna

From: Tricia edu>
Sent: 01 August 2018 14:25
To: silna@ co.za
Subject: RE: Management/Staff invitation/participation in research:

Silna,

I would be glad to answer these questions.

1. I think blended learning is a good way to incorporate technology into the classroom while maintaining the regular pedagogy. Students have varying learning styles, and this is a good way to address them in a way that meets the needs of more students.
2. By "soft skills" I am referring to the skills that cannot really be taught that individuals need to possess to be good employees. Things like promptness, the ability to work in a team, reliability, responsibility, and the ability to accept and grow from constructive criticism. These are just a few of the very important attributes that we need to encourage in students in order to help them be successful in their careers. Employers, when given two applicants who possess the same strong knowledge needed for the job, is more likely to choose the one who seems to have these skills.

Let me know if you have additional questions.

Thanks,
Tricia

APPENDIX M: TRANSCRIBED INTERVIEW

Interview S3SA

Interviewer: Thank you for your time (Name of student) and for agreeing to participate. It is much appreciated. Remember, your name will not be mentioned anywhere in the study, and no one will know you participated or be able to identify you ok? You welcome to share all the views you have, even if you think it is not the answers I would like.

Student: No problem mam

I: (Name of student), and you have no objection for me to record our conversation?

S: Not at all. It is ok.

I: (Name of student), the questions I will ask relates to three sections. I will ask you about technology learning, then some questions on employability skills and what you think, and then about the career guidance students receive at (Name of Institution).

S: Ok.

I: Ok, (Name of student),

1. Besides your studies for what else do you use technology?

S: Uhm…I use technology at home, cellphone, television, basic things, …nothing special, uhm…laptops, when I'm at school computers or when I'm studying… just basic things…that's all.

I: Ok.

2. Why did you choose to enroll for studies using technology?

S: No, I did not enroll because they were offering studies through technology. I applied late,… I came late. That is only when I learn we are going…studying using technology, tablets, computers. We were not going to be using books, that's when I learnt. I didn't come to (Name of Institution) because they were going to use technology.

I: Ok. But how do you feel to use technology to learn?

S: My first experience was I was excited. When you register you receive a tablet. I never had a table before, so it was exciting, we use computers and things…done via projections, there weren't any books and that was exciting until I broke my tablet. And that is when the problem started, I have not been able to submit work, I had to stay late at school so that I could use the computer lab and so forth.

I: Sorry about that (Name of student). Shame man….Ok, the next question I would like to ask is,

3. How much time do you spend on studies per day?

S: Honestly not enough. Because I stay in the rural areas, so it takes me about 2 hours to get to the college which is in (Name of Town). And then when I am here, my classes are in the afternoon and I have to attend… and I don't have enough time to go to the computer lab, or be with friends, because I have to return back. But I have to say more or less 3 hours a day.

I: Ok.

4. How often do you attend face to face classes?

S: For the current module we do, I attend 3 times a week, Monday, Tuesday and Wednesday and you free Thursday and Friday.

I: Ok. (Name of student),

5. What are your thoughts on blended learning?

S: There are certain things about it that are good, and there are certain things that are not good. For instance there are people that have not received computer studies in high school. I did attend high school and we did computers, but there are kids from rural areas that don't…do computers as part of their curriculum. So sometimes when they get to higher institutions they don't know how to use a tablet, they don't know how to use computers, it can be very difficult for them to adapt. But at the same time, for people like me, who have already receive training for computers it's fun, it's easy, and you can easily adapt to the situation because you have the basic understanding of using these things.

I: Ok.

6. How would you describe your learning style using technology in your studies? Can you elaborate a little on that please?

S: When I studied my first year, we did a module where I identified that I am a student that studies by listening. I adapt well and listening. So for instance, say at school there are times when the lecturer isn't going into dept about a certain topic, and I have to go study by myself, and it makes it much more difficult to adapt, because a person that likes listening and have to adapt….so using computers is hard, I don't have enough concentration span, ya… I prefer listening than doing research, I prefer being told and bring presentations, observations, practicals, that's how I learn.

Me. Ok. Thank you for that.

7. (Name of student), please tell me about your experiences using your learning platform.

S: Uhm, for me it's good. Because you submit, you download your textbook, and you research on the topics that you do. While you on the ELP (Name of platform), you can mark on points that you don't understand,….and the bad thing is, when I broke my tablet I wasn't able to access the ELP, I had to get a smartphone and had to wait because I didn't have the money ….it is just two different things. You have to wait, you don't have enough data, you don't have a tablet and that…, for instance, we use WiFi at school for the ELP. When you not in school, …I live in the rural areas there isn't WiFi there. So you have to wait until you come to school to submit. Even if you were not planning on coming, you have to be at school, to have access to WiFi,…those type of things.

I: And how would you describe,

a) Quality of content, the videos, presentations, your textbooks etc.

S: For me the presentations are good. We do presentations in class. We participate as a group or individual… and then downloading the books via the ELP is good for me, because you keep it on your phone, even if you in the car, I travel a long distance, I'm sitting in the taxi, I can go through my ELP studying… it's good…better than taking up this huge book uh….ya…

b) Experiences when interacting with other students in your class and your tutors

S: In class we generally come in, we discuss what we going to be doing during that day, and then maybe we have to present on a….let's say….I'm studying HR management, so we have to study about recruiting employees and how to select, … sometimes maybe we give a presentation, or listen to views that students have on how you could have done better, we go on the ELP to check how I could have presented better, listen to a video on how to present,…its quiet fun actually. We…for each module that we do we meet up and then we create a WhatsApp group, and on the WhatsApp group we usually will be talking like, I won't be in class because of so and so…, I don't understand activity number one,… could you please help me, I have a question,… I'm in a taxi,… there is a strike… I won't be able to make it to class. But we do have a communication forum where we discuss things that are happening.

I: Ok, and how would you describe,

c) General administration issues

S: Sometimes when you downloading books it doesn't say that you have downloaded, it doesn't tick. Uh…you submit work, and the ELP will say: 'You have not submitted', and there are general problems when I send work to the facilitator via the ELP, the facilitator will say, 'I have not received your work', whereas it is already submitted! It just has things like that,… so sometimes, it takes up a lot of time. Sometimes, it can be very quickly, you can download work very fast.

I: Ok (Name of student), how would you describe the,

d) Student support

S: For instance when you have a problem, depending on the type of problem, you can go visit your facilitator, and say you currently experiencing this type of problem, where he or she will advise you on the steps you have to take. Or, if they don't know how to help you, they will consult with somebody else that might have better experience. For instance, I'm black, and let's say my facilitator is white, then she won't be able to relate to a problem that I'm probably facing. Then she will refer me to someone else that will understand. So, it's very good. The support that we receive at school is great actually.

Me. Good. Thank you (Name of student). Do you experience of know of any challenges using your ELP?

e) Challenges

For me, my main challenge was last year, my first year when I came to (Name of Institution) and I dropped my tablet, and then for me, I couldn't … what…you couldn't take them to a repair. And me, living far from campus, I have to travel a long distance, and have to make sure I don't get late …. But overall …when I comes to my general studies I'm fine, I'm naturally a hard worker so…I know how to adapt to a situation.

I: Just a question (Name of student). Do you think students would want to study only online?

S: For me, studying online wouldn't work, for me because, I study by listening, that's why I choose to travel between ….online I wouldn't have the support, I wouldn't know who to ask, and so forth, that's why I choose to travel, because of family related issues it's best for me to come to campus, get the support they have on campus and then travel back. That's why, I said mos, my learning style is I study by listening.

I: Ok, we done with technology. The next couple of questions are related to employability skills. And the first question I would like to ask, is

8. What do you think are reasons (if any), for graduate unemployment in the 21st century?

S: For me personally, the reason for unemployment that I think, is that you go to school, we study for 3 years or 4 years, you get that qualification, you don't have working experience, then what? You see an ad in the local newspaper, but they say they want 4 to 5 years' experience. You don't have that experience, you have a qualification. For me, I'd say the best option would be while they are studying, to find work as well, or create practical. We should obtain more practical studies while we are studying so that by the time you finished your qualification, you then have the experience as well. Because, the moment they post that ad… they want a HR manager with 3 to 4 years' experience bla bla bla. I studied HR, I don't have the working experience.

Me. Good. Then (Name of student),

9. What skills do you think are needed to be employed and employers expect of graduates?

S: For me, the main skill I'd say is great communication skills. Why I say that? Because you could literally start a course in…let say, I study HR management, you have to do presentations, you have to meet with people about employing them, and so forth. If you don't know how to communicate with people then you damned. You need to be able to communicate, you need to be able to solve problems, be a fast thinker – you must be able to think on your feet. So, that's one of the things I think.

11. How are you studies linked or not linked to the real-world?

Yes. I believe that. Because with our studies,… for each module that you do, you are asked to visit an organization related to that. For instance, I study employer wellness, so I have to visit an organization for about 3 to 4 days to get an in-depth feel of what are the operations they are doing in that office, how do they operate. So for me, each and every module go and visit an organization, related towards that, and we study for 3 to 4 days on a certain topic on how…what is the emergency policy for this company…we ask questions like that. So they show us, for instance we do this that that, so for me it is part of the real world.

I: Do you need to find your own company?

The institution let you find your own company, you use your own connections, but they do provide you with a letter saying this is (Name of institution), and Miss so and so is studying a diploma in HR with us, bla bla bla, following these related topics, then you have to go to a certain institutions. Some institutions chase you away, (laughing), saying they don't have time for that, go somewhere else. Usually what is best, you use people that you are related with, your family members, your mothers, fathers, ex-employees or so…we use people like that.

I: Ok.

12. Do you think learning with technology can contribute/enhance employability skills? Please elaborate.

Without a doubt for me yes. Because the moment you learn with technology, you adapt to using a laptop, to using a computer, to be able to present, we use projectors, you use PowerPoint presentations. So, the moment you study at a college or a higher institution you adapt. The time you go to the workplace you know I studied presentation skills at school, I know how to use a laptop, I have a typing speed of 40wpm. So it does enhance your employability skills.

I: Ok thank you for that. The last few question is about your institutional assistance.

13. How do you experience career guidance from your institution to make a career decision? Please elaborate.

S: For me, when I came to the college, I was interviewed by this lady, and she asked me what my career choice was, and I told her I wanted to study HR management, and they… I had to tell her what I think HR management is. After I told her, she told me she thinks that I have chosen the right career. She could tell from the questions she asked me that I knew what I was talking about. I wasn't going talking about PR or Marketing… she knew that I knew what HR management was. Then they also have this new system where you come in for registration, and then they ask you,… it's like an app on the computer ….the app ask you questions related to certain fields, and then for instance you could get a 65% in marketing, 4 % in IT and then from there they will decide ok…, maybe you should rather take where you have a higher % in a field. So they have career guidance support like that.

I: We almost done ok.

14. If anything, what would you have liked to be included in your college training towards employability?

For me, I'd say….as I've said… we do for each module… that we do …we go visit an organization. But the timeline for that visit is short, it's 1 to 3 days, and you don't really gain experience from that. You only sitting there asking questions. So for me I would have liked they included, maybe…you go for training for a period of 6 months at a certain company implementing the work that you have studied, whether it is unpaid. We don't really care about for being paid… for we are still studying. The moment they include that, then you gaining the working experience, you know how to be in an organization, you know to be early, you know how to interact with different people within the organization.

I: Then the last question (Name of student),

15. Who should be involved in assisting graduates to find employment? Please elaborate.

That's a tricky one, because some institutions don't have a system where they show support to their graduates. There should be a support system within every college, institution, university where they try and help you to find work. For instance they look at their marketing graduates and post ads on support. Like, come to the college, we have people looking for marketing students, we have people looking for…so I believe that each and every institutions should have a system where they help their graduates. Even though a graduate should take it upon themselves to also find work, but knowing you have someone supporting you after you graduated, gives you that extra bit of oemf, or support, or knowing that someone is working with you to find that job. So some graduates are just apprehended, you don't return so then we are done with you.

I: Well done, thank you for all the information (Name of student), and good luck with your exams.

S: Thank you very much mam.

APPENDIX N: COMPLETED QUALITATIVE QUESTIONNAIRE

Dear Lecturer/Tutor,

Thank you for your time. Your valuable insight, experience, and understanding of blended learning will benefit the higher education sector with growth enabling policies to address graduate employability development when technology is used to learn. You are kindly requested to complete this questionnaire as honestly and frankly as possible and according to your personal views and/or experience related to your specific field of teaching.

1. **Your field of teaching: Business**
2. **Department: School of Business**

A. TECHNOLOGY LEARNING:

1) What are your thoughts on using technology in higher education to learn?

Can be a very powerful tool when used properly. Unfortunately, in an online environment, it is used for convenience rather than quality. Technology has progressed to the point that our focus should be on synchronous rather than asynchronous delivery.

2) Is your teaching style different when you use technology to teach? Please elaborate.

Of course, there are drastic differences when comparing online teaching to classroom teaching. However, I think you are asking about having tech in a classroom vs. not. In the classroom environment, it is very helpful in allowing for real time student research and for providing examples to support learning, but this only minimally affects my teaching style.

3) What skills should a prospective student have to study online?

Critical thinking a problem solving combined with strong technical skills (Microsoft office, video conferencing, data manipulation, file manipulation, use of online libraries, etc…).

4) What are your thoughts on blended learning

There is a very board scope with regard to blended learning models. As a matter of course I believe that they are always more successful than a fully online model, as they can be designed to provide a solid and supportive mix of interpersonal skills (classroom), collaborative use of technology (synchronous OL sessions), independent research/study/assignment completion (asynchronous OL work).

5) How do you think *lecturers/tutors and students* experience an online learning platform related to the following: (Please complete below)

	TUTORS	**STUDENTS**
General views on: **(Quality of content/videos /presentations/etc.)**	Can vary drastically by course. If the faculty and or course developer do not take the time to pull or create high quality content the course will suffer	Tend to prefer when this content supports concepts and text readings through examples. The helps them transition from abstract concepts to concrete understanding

Using online discussion forums	Generally a waste of time. Should be replaced with synchronous real time video discussion. The hardware and software is in place that make this simple to accomplish.	Students typically dislike and find little value. Prefer other learning tools.
Administrative issues	Can be very difficult or impossible to navigate if I.T. support is not in place to keep the learning platform is not up and running. Class sizes need to be capped at lower levels because an online course is much more time intensive than a face-to-face section.	Quickly become frustrated and angry if the platform does not do what it should; tech issues on the student computers that we cannot control magnify this.
Student support	Critical and time consuming. Instead of addressing a class full of students to solve issues, this becomes a 1:1 process that is often complicated by delays inherent in traditional messaging/email software	Want instant fix and help and are easily frustrated with poor customer support
Challenges	Cost, training, support staffing, Implementation. Maintaining quality and rigor in learning should be the only focus.	Creating an OL experience that offers flexibility but mimics the synchronous traditional classroom as closely as possible.

B. EMPLOYABILITY SKILLS:

What do you think…

6) are the needs/expectations of students in the 21st century?

The markers for success do not change from generation to generation: Critical thinking, problem solving, strong people skills, and adaptability. Jobs have become so specialized that employers expect to do some level of training upon hire. If an individual has the markers for success, they will do well professionally. In many on our classes our faculty treat the classroom, related group assignments, and related community interactions as if they were part of a true work environment where timeliness, dress code, professionalism, team interaction, peer interaction, leadership, responsibility, etc.. are integrated into the course assignments as part of their grades. This soft skills area is one where a pure OL learning model falls short, and can never truly match a traditional face to face section.

7) are the reasons (if any), for graduate unemployment in the 21st century?

Colleges and employers must work together to direct students into high demand fields. Career coaching is heavily underutilized. Graduate unemployment occurs when students earn a degree with skill sets that are not in demand.

8) are the skills graduates need to be employed?

Talk to your employers. See markers for success above.

9) are your current curricula closely linked to the real-world? Please elaborate.

Management skills, Accounting skills, Microsoft Office Certifications, Presentation/report preparation, Team projects, research

10) are employers' expectations from graduates when they start their careers?

Strong technical and interpersonal skills. Fundamental knowledge of the job for which they are being hired.

11) can technology contribute/enhance employability skills? Please elaborate.

Yes, but how much and what are strongly dependent on the field they are entering. There is no global answer for this.

C. INSTITUTIONAL ASSISTANCE:

What are your views on…

12) career guidance to assist students in making career decision?

Absolutely critical and underutilized. Requires strong employer collaboration.

13) changes in curricula to promote student/graduate employability?

Employer advisory boards should be strong, and their feedback should be utilized to keep skill sets current.

14) ensuring suitability of online tutors?

They should be properly vetted to ensure that they have to credentials and experience to effectively guide student learning. They should work closely with the faculty teaching the online course.

15) who should be involved in assisting students/graduates to find employment?

This should be an institution wide mission: Employers (job fairs, advisory boards, etc…) Career Guidance officers, Faculty, Academic Advisors, Financial aid offices – all should work together to direct students into fields that suit them but are also in demand.

Your participation in this study is greatly appreciated. Thank you.

Please e-mail your answers to me: 48533459@mylife.unisa.ac.za

APPENDIX O: DECLARATION OF LANGUAGE EDITING

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DECLARATION OF LANGUAGE EDITING

I, Christina Maria Etrecia Terblanche, hereby declare that I edited the research study titled:

MANAGING THE QUALITY OF EMPLOYABILITY DEVELOPMENT IN HIGHER EDUCATION THROUGH BLENDED LEARNING: A COMPARATIVE STUDY

for **Silna van Tonder** for the purpose of submission as a postgraduate study for examination. Changes were indicated in track changes and implementation was left to the author.

Regards,

CME Terblanche

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